AN EXAMINATION OF AUDITOR JUDGEMENTS AND DECISION MAKING IN THE APPLICATION OF ACCOUNTING RECOGNITION CRITERIA

By

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STATEMENT OF ORIGINALITY AND ACKNOWLEDGEMENTS

This thesis is my original work. However, it has benefited greatly from the contribution, intelligence, guidance, perseverance and patience of my supervisor, Professor Keith Houghton. Were it not for his involvement, I could not have aspired to undertake nor submit this thesis and to him, I extend my most sincere thanks and gratitude.

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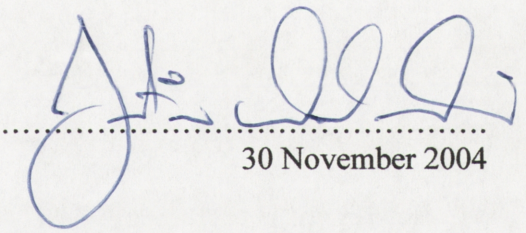

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An Examination of Auditor Judgements and Decision Making in the Application of Accounting Recognition Criteria

Abstract

This thesis uses auditors to examine the judgements and decisions inherent in the recognition of financial statement elements and tests hypotheses that:

(a) Examine an association between research design (i.e. within-subject versus between-subject) and interpretations of accounting recognition criteria.

(b) Compare auditor interpretations of recognition criteria with: (i) those of Australian accounting standard setters and (ii) those of the Australian corporate regulator.

(c) Compare auditors' decision making with the 'sequential' process prescribed in Australian accounting standards (for recognition of financial statement elements).

(d) Examine the effects of an increased regulator monitoring presence on auditor interpretations of accounting recognition criteria.

(e) Examine the effects of an increased regulator monitoring presence on auditors' decision making when recognising financial statement elements.

The thesis reports the existence of an association between research design and auditor interpretations of financial statement element recognition criteria. Further, using a between-subject design, the thesis reports:

(b) A significant proportion of auditors do not share meaning about key recognition criteria with either Australian standard setters or the Australian corporate regulator.

(b) A significant proportion of auditors make decisions that are inconsistent with use of the prescribed 'sequential' decision making process.

(c) In the presence of an increased regulator monitoring presence, auditor judgements about the meaning of recognition criteria become significantly more conservative.

(d) In the presence of an increased regulator monitoring presence, auditor non-compliance noted in (b) is not observed and auditors make decisions that are consistent with use of the prescribed sequential process.

The results possess important implications for both standard setting and accounting research. They provide strong evidence of limited generalizability for results from research using within-subject research designs to measure the meaning of probability terms used in accounting recognition criteria. They indicate that communication between standard setters, regulators and auditors has been sub-optimal and that, with respect to many of the recognition criteria examined, auditors do not appear to share meaning with standard setters or regulators. Results also indicate that, in certain circumstances, auditor decisions may not comply with legal requirements in accounting standards and that, in these circumstances, compliance should not be presumed by either regulators or accounting researchers. Finally, the results indicate that evidence of the aforementioned non-compliance is significantly reduced in the presence of increased regulatory monitoring.

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CHAPTER 1

COMMUNICATION IN AUTHORITATIVE ACCOUNTING PRONOUNCEMENTS

1.0 Objectives and Structure of Chapter One

Accounting is defined as the process of '... identifying, measuring and communicating (emphasis added) economic information to permit judgements and decisions by users of the information' (American Accounting Association, 1966: p.1). Accounting is also assumed '... to be action oriented; its purpose is to influence action (behaviour) (emphasis added) ...' (Belkaoui and Jones, 1996: p. 142). Together, the aforementioned citations point to communication and human behaviour as integral parts of accounting.

It is therefore not surprising that research in the accounting domain has examined, *inter alia*, matters relating to communication and human behaviour. Some of this research (for example: Adelberg (1982); Hackenbrack and Nelson (1996) and Hronsky and Houghton (2000)) has examined issues regarding communication and/or human behaviour associated with authoritative accounting pronouncements. A number of accounting pronouncements lend themselves to such an examination because: (a) they prescribe an 'acceptable' or desired behaviour; and (b) rely upon effective communication to achieve the desired behaviour. An example of this lies in accounting standards that prescribe criteria and a process for the recognition of financial statement elements (eg AASB 1011: Accounting for Research and Development Costs (Australian Accounting Standards Board) (AASB), 1987); and Statement of Financial Accounting Standards No. 5: Accounting for Contingencies (Financial Accounting Standards Board (FASB), 1975).

In this thesis, accounting standards (such as AASB 1011) also provide the context in which matters pertaining to communication and human behaviour are examined. In broad terms, the thesis examines the effectiveness of communication, through accounting standards, between standard setters, regulators and auditors. As part of that examination, the thesis compares the consistency of auditor decisions and their decision making process with the 'acceptable' or desired decisions and decision making process as prescribed by standard setters.

The objectives of this thesis will be discussed in greater detail in the following section of this chapter. Additionally, this chapter will discuss (a) the motivation for the thesis; and (b) the communication theory that underpins the thesis topic. The chapter has five main sections. Sections 1.1 and 1.2 present the objectives and motivation for the thesis. Section 1.3 examines communication theory focussing on two main schools of thought ie the process school and the semiotic school. Section 1.4 examines the nature of meaning and section 1.5 presents a summary of the chapter.

1.1 Objectives of this Thesis

One crucial aspect of accounting practice concerns external financial reporting. In the context of external financial reporting, authoritative pronouncements such as accounting standards can be important because they prescribe criteria that regulate the recognition of financial statement elements. The wording of these criteria is a significant factor in their implementation. This is because the words used, and meaning thereof becomes a deciding factor in whether financial statement elements are recognised on the face of financial statements (Deakin (1989); Wedlick (1993)). Consequently, in examining issues pertaining to the wording of recognition criteria, this thesis will address an important area in the accounting domain.

A review of financial element recognition criteria finds they often possess similar qualities. To highlight these qualities, consider, for example, the requirements of *AASB 1011: Accounting for Research and Development Costs* (AASB, 1987). This standard prescribes that research and development costs may only be recognised as an asset in the financial statements where recovery of the costs is *expected beyond any reasonable doubt* (AASB, 1987: p. 983). To apply these requirements as intended, financial statement preparers must understand and be able to interpret what standard setters mean by 'expected beyond any reasonable doubt'. Further, to monitor and enforce the intended requirements, regulators must also share an understanding with standard setters as to what is meant by 'expected beyond any reasonable doubt'.

The criteria discussed above also appear to prescribe a particular decision process. The process entails the passing of a test. That is, in deciding whether to recognise research and development costs as an asset, a decision maker must interpret what is meant by

'expected beyond any reasonable doubt' and then decide whether the likelihood of recovering the costs equals or exceeds the expected beyond any reasonable doubt test. Again, preparers of financial statements must share an understanding with standard setters about the intended decision process to apply the criteria effectively. Likewise, to monitor and enforce the intended requirements, regulators must also share an understanding with standard setters about the required judgement and decision process.

Along with AASB 1011 requirements, a review of other financial element recognition criteria in Australian accounting standards[1] finds they generally possess two common characteristics and these are:

(a) The wording incorporates expressions or terms such as 'probable' or 'expected beyond any reasonable doubt' which are not clearly defined in either legal or professional pronouncements[2]; and

(b) The wording prescribes the use of a particular judgement and decision process (to be discussed in Chapter Three) in recognising financial statement elements.

Using these two characteristics, this thesis examines the effectiveness of communication, through accounting standards, between standard setters, regulators and auditors[3]. More specifically, the research questions consider:

(a) Whether standard setters, regulators and auditors share an understanding about the meaning of probability expressions[4] used in recognition criteria?

(b) Whether auditor decisions are consistent with those that would occur through compliance with the decision process implicit in prescribed recognition criteria?

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[1] These recognition criteria are discussed fully in Chapter 2.

[2] In many cases these terms are not defined at all and Chapter 2 discusses this area fully.

[3] Auditors are seen as an important participant in the external financial reporting environment since, as part of their role, they issue an opinion as to whether financial statements have been prepared in compliance with accounting standards.

[4] In particular, the thesis examines the meaning of 'probable'; 'expected beyond any reasonable doubt'; 'assured beyond any reasonable doubt'; 'virtually certain'; 'foreseeable'; and 'expected'.

(c) Whether changes in the decision-making context (in particular, the facts pertaining to the regulatory environment of the audit client) are associated with significant changes in the meaning of probability expressions held by auditors?

(d) Whether changes in the decision-making context are associated with significant changes to auditor decisions and the degree of perceived compliance with decision process implicit in prescribed recognition criteria?

Questions (a) and (c) examine the meaning of probability expressions while questions (b) and (d) examine the decision outcomes and draw inferences about the process by which recognition decisions are made.

The thesis also examines one further question. That is, whether an association exists between research design (ie within-subject versus between-subject) and the auditor held meaning of probability terms used in accounting recognition criteria. Examining this latter question will contribute to the research design used to examine the other 4 questions (discussed above) in the present study. Further, it will contribute to understanding the generalizability of results from prior research using a within-subject design to measure the meaning of probability terminology. Additionally, it contributes to the methodological considerations of future research.

In the chapters that follow, each of the above questions is considered separately along with related theory and research. However, there are three areas that are salient to examining all the above research questions and they are: (i) The motivation for this thesis and why effective communication, through accounting pronouncements, is a non-trivial issue; (ii) The relevant elements of communication theory; and (iii) Previous literature and research on effects of context on the meaning and application of financial statement element recognition criteria[5]. Each of these areas is considered in the remainder of this chapter.

[5] This does not represent the only discussion of previous relevant literature and research. Further literature is examined in other chapters of the thesis where it is directly related to the discussion in those chapters and supports development of the underpinning theory for the present study.

1.2 The Importance of Effective Communication in Accounting Standards and the Motivation for this Study

While an accounting standard's conceptual merits may be sound, this in itself could be insufficient for effective communication of the requirements therein. That is, the pronouncement may not be properly implemented if it is written in a complex, ambiguous or unclear manner. To be effective, the language must (at least) be consistent with the accepted conceptual underpinning, be unambiguous, understandable and ensure that the source's intended meaning is the meaning transmitted to recipients. This notion was expressed in the classic American Accounting Association's *Statement of Basic Accounting Theory*:

> 'The development of accounting information is only part of the accounting function. A necessary companion aspect of the function is development of the communication process so that information can be transmitted and so that to those to whom the information is provided understand it ...' (1966, p.7).

Why is the wording within authoritative accounting pronouncements of significance? As discussed earlier, a great many studies examine communication in accounting[6]. A common thread and motivation running through these studies '... has been the aim of improving the accounting and auditing process' (Libby, 1981 p. ix). Additionally, regardless of whether these studies examine communication through financial statements, accounting constructs or pronouncements, an underlying reason is the economic consequence of ineffective communication (see for example, Adelberg, 1982; or Amer, Hackenbrack and Nelson, 1994).

Various different examples of ineffective communication leading to inefficient resource allocation exist. As noted by Kelly Newton, one example is '... the use of ambiguous terms ... resulting in uncertainty regarding implementation and fostering incomparable disclosures among firms' (Kelly Newton, 1980: p.105). It follows that a consequence of the aforementioned may be the allocation of resources in a sub-optimal manner.

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[6] For example, Haried (1972), Libby (1979), Belkaoui (1980), Schultz and Reckers (1981), Adelberg (1982), Houghton (1987), Brun and Teigen (1988), Raghunandan, Grimlund and Schepanski (1991), Houghton and Walawski (1992) and Laswad and Mak (1997) (1999/2000).

A second example exists where language and ineffective communication contribute to resource wastage from development, approval and subsequent withdrawal of authoritative accounting pronouncements. One such example is *Statement of Accounting Concept 4: Definition and Recognition of Financial Statement Elements* (AASB, 1995a) (hereafter referred to as 'SAC 4'). SAC 4 was developed by the Australian Accounting Standards Board (AASB) and the Australian Accounting Research Foundation (AARF)[7]. The statement represented a cornerstone in the development of a legally mandated accounting conceptual framework.

When given legal status (in 1993), SAC 4 generated considerable concern within the accounting and business community resulting in: (a) non-supportive submissions to standard setters (for example the Australian Securities and Investment Commission's[8] Update 105 (ASIC, 1993a)); and (b) heavy criticism from the banking industry, the Group of 100[9], the Australian Institute of Company Directors, professional accounting bodies, ASIC and the majority of 'big six' accounting firms (ASIC, 1993a; Soh, 1993; Standish, 1993; Duncan, 1993; Steel, 1993; and Sims, 1993).

A notable proportion of this criticism was directed at language used in the recognition criteria. It was seen as subjective, unable to facilitate consensus in judgements and leading to recognition criteria without sufficient rigor (Bolton, 1993; Lawson, 1993, ASIC, 1993a). Speaking on behalf of the Group of 100 Mr Michael Bolton said that '... the Group of 100 was specifically concerned that following SAC 4, "probability" would determine the recording of assets and liabilities in advance of both performance and cash-flows' (Duncan, 1993).

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[7] At the time of collecting data for this thesis, the Australian Accounting Research Foundation and the Australian Accounting Standards Board were the two principal bodies responsible for Australian accounting standard with the latter being able to legally approve Australian accounting standards.

[8] The Australian Securities and Investments Commission is the Australian regulatory body which, under secs 13 and 14 of the Australian Securities and Investments Commission Law, has the power to investigate suspected non-compliance with the law and, if appropriate, to instigate prosecutions or civil actions against a corporation, its officers or its auditors. Prior to 1998 the Commission was known as 'the Australian Securities Commission'. In the interests of consistency, this thesis uses the Commission's current name throughout.

[9] The Group of 100 is an association comprised of senior accounting and finance executives from the largest 100 public companies and government owned enterprises in Australia.

The extent of the criticism was coercive enough for standard setters to withdraw the mandatory legal status of SAC 4. In effect, the 'cornerstone' became a stumbling block for proponents of the conceptual framework. What is more relevant here is that considerable resources were used in development, approval, submissions, criticism and subsequent withdrawal of SAC 4's legal status. Some of these resources may not have been used had alternative language been used in SAC 4's recognition criteria.

A third example of communication problems contributing to inefficient resource allocation is highlighted through litigation. In 1993, the economic consequences associated with litigation led the Australian Accounting Research Foundation (AARF) to acknowledge it '... needed to improve its style of communication ... because there are legal problems with QC's arguing over individual words ...' (Wedlick, 1993: p. 4). At that time, the increased litigation also prompted greater focus on the wording of recognition criteria in accounting standards with the Australian Securities and Investments Commission (ASIC)[10] indicating the issue of probability terminology in recognition criteria was a key emerging issue (Fonti, 1994). More recently, ASIC announced a surveillance project directed to areas of '... accounting abuse (with) higher priority given to capitalised and deferred expenses, recognition of revenue ...' (ASIC, 2002: p.1). This announcement followed corporate collapses (for example, HIH Insurance Ltd) involving allegations of improper and incorrect accounting practice in the recognition of financial statement elements (Main, 2002; and Kitney, 2002).

A classic illustration of the problem associated with litigation and ineffective communication is described in Deakin (1989) wherein the significance of terms such as 'reasonably possible' and 'probable' (used in the Financial Accounting Standards Board's (FASB) *Statement of Financial Accounting Standards 5: Accounting for Contingencies*) are discussed in the context of the Pennzoil-Texaco case. As was noted by Deakin, the interpretation and implementation of the relevant recognition criteria and the resulting disclosure by the two parties to the litigation was an integral part of the case. The case has considerable significance because '... it was the largest dollar value judgement in history and led to the largest bankruptcy in history' (Deakin, 1989: p.21).

[10] ASIC is Australia's principal corporate regulator. It both monitors and enforces compliance with approved accounting standards (Whittred, Zimmer and Taylor, 2000: p.7). It is the Australian equivalent of the Securities Exchange Commission (SEC) in the United States).

In 1993, and in the context of an increasingly litigious environment in Australia, ASIC released two documents: Update 105 (ASIC, 1993a) and Accounting Policy Note 36 (ASIC, 1993b). In Update 105 the ASIC criticizes standard setters over the use of 'probable' in the financial element recognition criteria prescribed in SAC 4. The ASIC's criticisms centre on its view that 'probable' is a less rigorous requirement than that which is present in many existing, and legally backed accounting standards.

Accounting Policy Note 36 (ASIC, 1993b) is also critical but in this case the ASIC directs its criticism at financial statement preparers. The criticism addresses the way Australian companies recognise future income tax benefits (FITB) in circumstances the ASIC perceives as non-compliance with the asset recognition criteria[11] in the legally mandated accounting standard *AASB 1020: Accounting for Income Tax (Tax-Effect Accounting)* (AASB 1020). One explanation for the ASIC's perception of non-compliance with AASB 1020, may lie in an absence of shared meaning between the ASIC, standard setters and preparers of financial statements. That is, perhaps financial statement preparers are misinterpreting the intended meaning of requirements within AASB 1020. Consequently, when applying the requirements as they understand them, preparers believe they are complying with the standard but the ASIC perceives non-compliance. Alternatively, perhaps the ASIC is misinterpreting the intended meaning of requirements in AASB 1020 and is inefficiently allocating resources to enforce an unintended requirement. Similar explanations may exist for more recent pronouncements by ASIC regarding its observations of 'accounting abuse' and the higher surveillance priorities it is giving to capitalised and deferred expenses and recognition of revenue ...' (ASIC, 2002: p.1).

In summary then, the desire to improve the accounting and auditing process, inefficient resource allocation, an increased possibility for litigation and the criticism of bodies such as ASIC provide important motivation for the topic of this thesis. They individually and collectively lead to the key question: do key participants in the external financial reporting environment share an understanding about the meaning and application of financial element recognition criteria? Implicit in this is the question of

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[11] In particular, the ASIC believed that these companies were not complying with the requirement that FITBs be recognised only where the future benefits were *virtually certain* of realization.

whether bodies involved in standard setting (the AARF and the AASB) have effectively communicated the intended meaning of recognition criteria terminology. To assist in addressing these questions the following section examines communication theory, and why shared meaning is essential for effective communication.

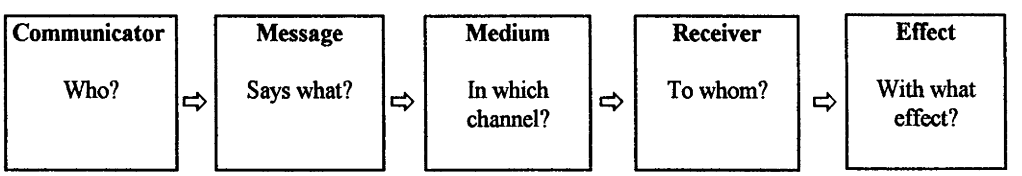
1.3 Communication Theory

Communication theory provides guidance on how and why humans can effectively interact via written or verbal messages[12]. In the study of communication, two main schools of thought are the 'process school' and the 'semiotic school'. The process school is principally concerned with the transmitting of messages through communication channels, and considers the process of communication to be a way in which a person affects the thoughts and/or behaviour of another. The semiotic school differs in that it views communication as an interactive process whereby the creation and exchange of messages or signs interacts with those involved in order to produce meanings. An additional difference between the process and semiotic schools is that the latter is not concerned with the efficiency or accuracy of the communication process[13]. As would be expected, differences between the two schools have led to a number of varying communication models and these are examined in the next section.

1.3.1 Process Models of Communication.

In the development of communication theory, one of the classic models is that of Laswell (1948) which is illustrated in Figure 1. As a political scientist interested in

Figure 1: Laswell's Model of Communication (Laswell, 1948)



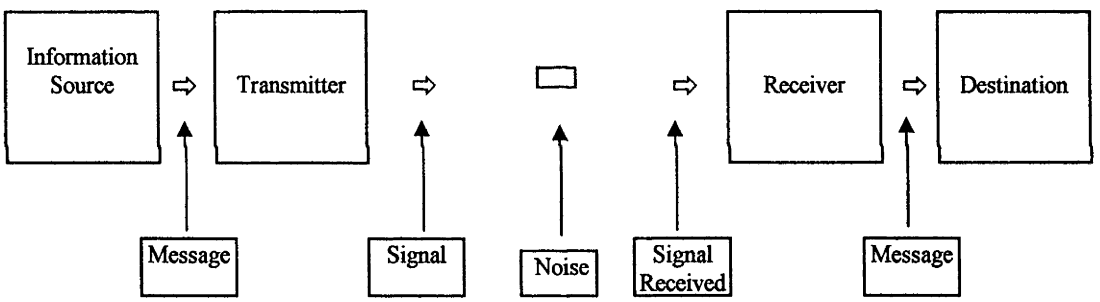
[12] The discussion of communication theory in the present thesis is not intended to be exhaustive and has paid particular attention to the work of Hronsky (1993) whose work and summary of communication theory was considered incisive, relevant and authoritative.

[13] As is discussed later in this chapter, semiotic communication models do not consider the effects of communication on the receiver's behaviour (for example Ogden and Richards (1923); or Fiske (1982)).

communication and propaganda within politics, Laswell was interested in the identity of the parties to communication and in what effect the message had on the recipient. The assumption being of course that messages always have an effect.

Equally as influential as Laswell's model, is that of Shannon and Weaver (1949). Although originally developed in a mathematical context, Shannon and Weaver's model representation is widely used in linguistics and the behavioural sciences and is further developed in later models. As shown in Figure 2, in Shannon and Weaver's model the source of the information selects the message to be sent from an available set of messages. The transmitter alters or converts the message into a signal which is transmitted via a channel or channels of communication to a receiver. The receiver changes the signal back into a message which is delivered to its destination.

Figure 2: Shannon and Weaver's Model of Communication (Shannon and Weaver, 1949)



The model describes the communication process as a linear, one directional process wherein the transmission of a message may be disrupted by noise. In this case, 'noise' means anything which is added to the signal, as it passes through the communication channel, which was not intended by the source. The model assumes that meaning is contained in the message and also assumes that, unless there is noise, the message encoded by the sender will be the same message decoded by the receiver. This last assumption addresses that which Weaver (1949) termed a Level B problem in the communication process ie the semantic problem.

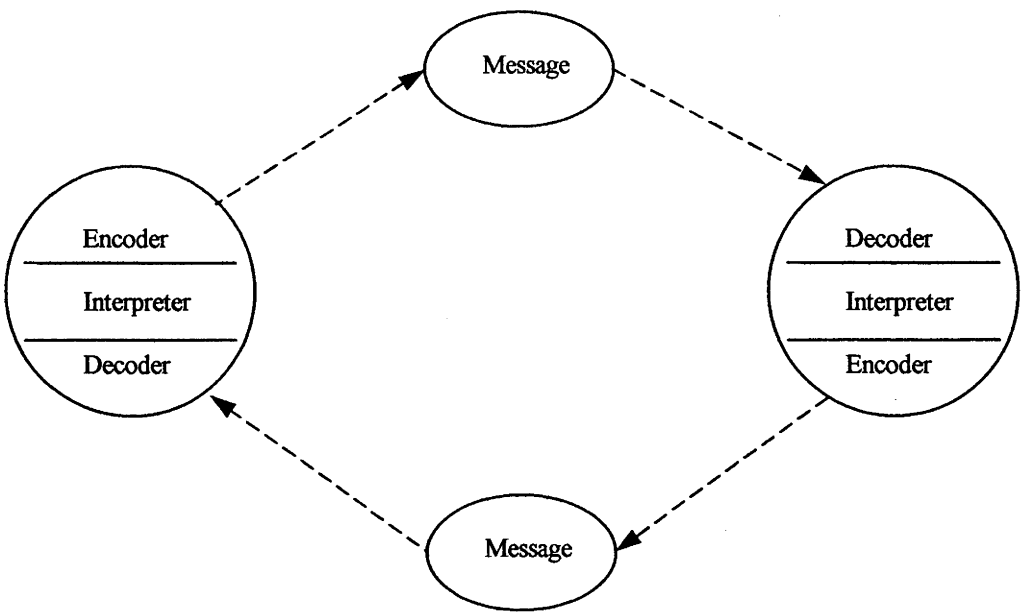
The semantic problem considers how precisely the transmitted symbols convey the desired meaning and implicitly this involves a comparison of the intended meaning of the message with the meaning interpreted and ultimately held by the destination or

receiver. The model is limited in some ways primarily due to its linear nature, a failure to incorporate feedback and the assumption that, apart from noise during transmission, the message held by transmitter and recipient are identical.

Later process models such as Defleur (1966) and McCroskey (1968) sought to overcome some of these shortcomings by including the element of feedback (ie communication of the receiver's reaction(s) back to the sender), assuming noise may potentially interfere at any stage in the communication process and by addressing the role of meaning in the communication process. Meaning is said to be converted into a message and transformed into information which will pass through a communication channel to the receiver. The latter decodes the information into a message which is then transformed into meaning at its destination. If meaning is shared then communication is said to have taken place.

Other models such as Newcomb (1953), Westley and Maclean (1957), Dance (1967) and Schramm (1954) moved away from the linear nature of the process models into what may be considered more circular model representations and did not distinguish between the sender and receiver. Schramm's (1954) model (in Figure 3) was developed by Schramm and Osgood and focussed on the parties to the communication process. In not distinguishing between the parties to the communication process, Schramm and

Figure 3: Schramm and Osgood's Circular Model (Schramm, 1954)

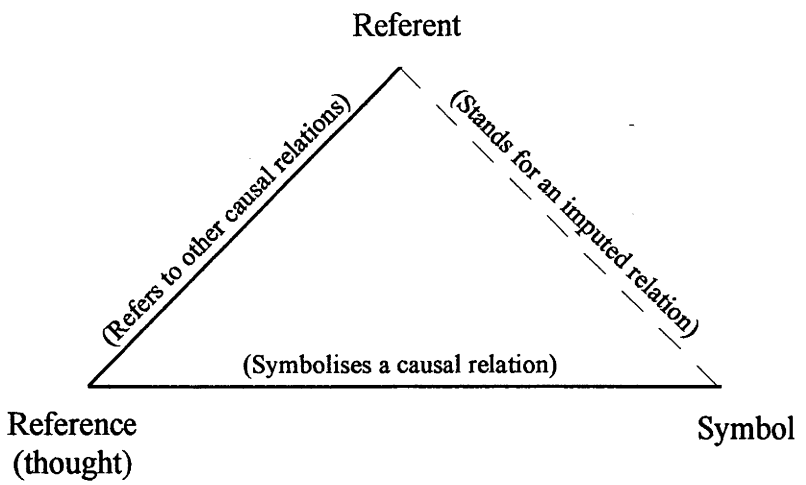


Osgood's model highlights the assumption that both parties are equally involved in encoding and decoding messages. In this aspect, the model is actually very similar to that of the traditional communication models in the second of the two main schools of thought, ie the semiotic school.

1.3.2 Semiotic Models of Communication

Semiotics (the study of signs and meanings) is primarily concerned with how messages interact with people and context in order to produce meaning(s). With a grounding in linguistic and literary analysis, semiotic models view communication as being the generation of meaning with 'generation' being the function of an interaction between three elements; the sign, the external reality to which the sign refers (sometimes called 'the object') and the thoughts associated with the sign by users of the sign. The sign is some text, object or sound which stands for something to someone. The sign affects the users by the creation of another sign[14] in the minds of those persons. For example, the word 'dog' (in a visual or aural form) carries an associated mental concept which relates to an object in reality. If those involved in a communication process share the same mental concept after seeing/hearing the word 'dog', then meaning is shared.

Figure 4: Elements of Meaning (Ogden and Richards, 1923)



Ogden and Richards (1923) developed a triangular model which is fairly representative of the semiotic models of communication. The model incorporates the three elements common to semiotic models of communication; the sign, the external reality or 'object'

[14] Called 'the interpretant', 'the reference' or 'the signified' depending upon the model.

to which it refers and the thoughts evoked by the sign in the minds of the users. In this model, 'symbol' is the equivalent of 'sign', 'referent' the equivalent of 'object' and the 'reference' being the thoughts associated with the symbol by the users.

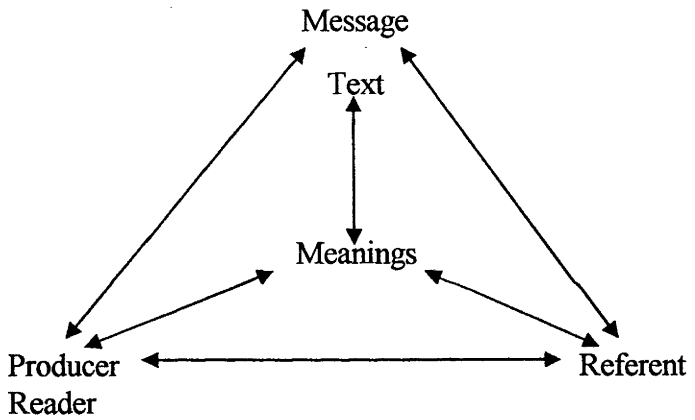
Ogden and Richard's primary focus is on the relationship between the symbol and the reference rather than the symbol and the referent or the behaviour of the users. In this respect, the work of de Saussure (1974) is similar. De Saussure's equivalent of the symbol was 'the signifier' and he called the attached mental concept 'the signified'. Signifiers are used to describe external reality to facilitate understanding and are constructed by, and are a product of, the culture to which people belong. Signifiers are part of the communication system used by members of that culture. Meaning is said to be a product of the structural inter-relationship of signifiers and de Saussure called this structural inter-relationship a 'code'.

Fiske (1982) describes a code as consisting of the physical signs (or symbols) which stand for something and the rules or conventions which underpin how and in what context the signs can be used to form messages and convey meaning to the members of a culture or sub-culture. Similarly, Hawes, in defining language, states that 'Man's symbols are not randomly arranged signs which lead to the conceptualisation of isolated and discrete referents. Rather, man's symbols are arranged in a systematic or patterned fashion with certain rules governing their usage' (Hawes, 1975: p.6).

McDonald (1972), Jain (1973), Belkaoui (1978) and (1989) successfully argue that accounting is a code or language with the accounting community viewed as a sub-culture. The accounting code is governed by generally accepted accounting principles and authoritative pronouncements such as accounting standards. The sharing of meaning will depend upon the parties to the communication process knowing the rules and conventions by which signs are selected and combined to form messages. Additionally, the sharing of meaning is dependent upon a commonality of background, experience, interests and assumptions. If this commonality does not exist between parties to the communication process, decoding will be aberrant and results in differences in the meaning held (Eco, 1965).

Theories like de Saussure's do not examine the idea that meaning may also be generated through the interaction between text and the reader's contextual environment. That is, the same sentence (syntagm) may have a different meaning in different contexts. This concept is explored by researchers such as Barthes (1968), Guiraud (1976) and Fiske (1982). Fiske (1982) develops a semiotic model where the message or text is one element in a structured relationship of constant interaction with the external reality and the producer/reader (see Figure 5). The message is organised into a code that interacts with the receiver/reader to generate meaning. The process may be influenced by external reality, the position of the reader within their culture and the context in which communication takes place.

Figure 5: Production of Meaning in Semiotics (Fiske, 1982)



1.3.3 Amalgamation of the Models and Summary of Communication Theory

It is evident that, in some cases, the elements of communication identified within the process and semiotic models overlap. However, a number of noticeable differences exist between the two. Firstly, the semiotic models do not make a distinction between the sender and the receiver and view both parties as being involved in the selecting, encoding and decoding process. Secondly, semiotic models are unconcerned with the effect(s) of communication on the behaviour of the receiver. With both types of model possessing shortcomings, attempts to merge the two resulted in theorists such as Gerbner (1956) and Jakobson (1968) developing generalised models of communication that attempt to marry the linear and triangular nature of the process and semiotic models to produce a model of communication which highlights the important features of communication and the relationship between those features.

As shown in Figures 6a and 6b, Jakobson (1968) identifies six constitutive factors of communication and six different functions of language that each of the factors determines.

Figure 6a: Constitutive Factors of Communication (Jakobson, 1968)

Message
Context
Addresser----------Addressee
Contact
Code

In Figure 6(a), the addresser sends a message to the addressee with the message referring to something other than itself, ie. the context. Contact represents both the form or channel of communication and the psychological connection(s) between addresser and addressee. The code, as previously mentioned, represents the system of meaning shared by addresser and addressee and by which the message is constructed.

Figure 6b: Functions of Communication (Jakobson, 1985)

Referential
Poetic
Emotive----------Conative
Phatic
Metalingual

Each of these six factors (highlighted in Figure 6(a)) has a corresponding function (illustrated in figure 6b). The emotive function describes the relationship between the message and the addresser; the referential function describes the context of the message; the poetic function is the relationship between the message and itself; the metalingual function describes the code; the phatic function keeps the channels of communication open and the conative function is the effect the message has on the addressee.

As implied in the previous discussion, there is no one universally accepted model of communication. However, the models that are examined in this thesis highlight the critical elements of communication and these elements are useful in building the theory

upon which this thesis rests. Namely, communication involves the transmitting of messages between parties. Messages are selected from available sources, encoded by the sender and decoded by the receiver. The code used is the way in which signs are organised into a system of meaning and consists of the physical signs (or symbols) which stand for something and the rules or conventions which underpin how and in what context the signs can be used by the members of a culture or sub-culture to form messages and convey meaning. Meaning is derived by both parties through their interaction with the message and their concepts of external reality. The sharing of meaning will depend upon the parties knowing the rules and conventions used to code the message, upon a sharing of similar concepts of external reality and upon the context in which the message is transmitted and received. Finally, the effect that the received message has upon the behaviour of the receiver is dependent upon the perceived meaning of the message and if shared meaning does not exist, aberrant decoding takes place and communication can be said to have failed.

1.3.4 Effective Communication in Accounting

'Communication is a vital link in accounting activity. It is of no less importance than developing the information itself ...' American Accounting Association (1966, p.7). The importance placed on communication by the American Accounting Association (AAA) is widely reflected in accounting pronouncements. The Australian Accounting Standards Board believes the objective of preparing and issuing financial reports is to '... provide information (emphasis added) about the financial position, financial performance and cash flows of an entity that is useful to a wide range of users in making economic decisions (emphasis added) (AASB, 2004(a): p. 13).

The AASB also note that users of general purpose financial statements are reliant upon the financial information communicated to them for the purposes of making and evaluating decisions about the allocation of economic resources (AASB, 2004). That is, these users are largely dependent upon the judgements and decisions of those involved in the preparation and presentation of financial statements (eg auditors). Since these judgements and decisions are guided by prescribed requirements in authoritative accounting pronouncements, it follows that communication between standard setting bodies, regulatory bodies and auditors is of critical importance. That is, standard setters,

regulators, preparers and users are linked by a reliance upon effective communication between them. In its absence, confusion, misinterpretation and inefficient resource allocation may eventuate.

In his classical work Goldberg notes that, while communication is the fundamental feature of accounting, it is also the axial problem (1964, p. 348). Communication through authoritative accounting pronouncements leads to the users making judgments and decisions that may have significant economic consequences. It follows that the meaning of words used in accounting pronouncements is an important area of study and warrants further consideration.

1.4 The Nature of Meaning

Paivio and Begg (1981) observe that linguists and psychologists approach the concept of meaning in one of three ways (a) as a property of stimuli (usually words), (b) as a property of responses, or (c) as a relationship between the stimuli, responses or both with this last approach being the most common. In this context, meaning is seen as the set of mediating processes between stimuli and responses.

Behavioural psychology tends to associate meaning with the pattern of responses that are attributable to a stimulus. As one example, Osgood and McGuiggan (1973) develop the 'representational mediation process theory' of meaning. This model is based on the work of Morris (1946) who classifies meaning into three levels. That is, (a) pragmatical meaning, which is concerned with the relationship of signs to situations and behaviours; (b) syntactical meaning, concerned with the relationship between signs and other signs; and (c) semantic meaning which is concerned with the relationship of signs to their referents. The semantic level of meaning (or relationship of signs to their referents) is typically of concern to psychologists. Osgood, Suci and Tannenbaum (1957) refer to it as the '...distinctive mediational process ... which occurs in the organism wherever a sign is received (decoded) or produced (encoded)' (1957: p.3).

The semantic level of meaning has two distinctive aspects or classes known as denotative meaning and connotative meaning. Denotative meaning refers to the obvious and 'prima facie' relationship between a sign and its referent. For example, the

denotative meaning of the word 'fire' might be an exothermic combination of a combustible substance and oxygen resulting in the release of light and heat. The connotative meaning refers to the more subjective, abstract associations with a word. For example, to an Eskimo the word 'fire' may carry associations of necessity or survival. To victims of the Australian 'Ash Wednesday' disaster in 1983 or the Great Fire of San Fransisco in 1906 the word 'fire' may be associated with the concepts of destruction and sorrow.

The denotative meaning of a sign is basically the same to all those who can understand it (Hilgard, Atkinson and Atkinson, 1975: p.306). The connotative meaning arises through the interaction of the sign, the context of use and the user's feelings or emotions. It is both subjective and context dependent and refers '... to an accumulation of emotional associations a particular ... (concept) has acquired' (Bruno, 1980: p. 136). Osgood et al (1957) notes that agreement on the referents of signs (the denotative meaning) implies nothing whatsoever about the representational states associated with the signs (Osgood et al, 1957: p.323). It follows then that the connotative meaning of communicated messages drives different behavioural responses.

Karvel identifies connotative meaning as being the critical aspect of meaning associated with differing behavioural reactions noting that '... connotative cognity is present only when individual's interpretations of, or reactions to the message are similar' Karvel (1979: p. 33). Hayakawa adopts a similar view when, in reference to connotative meaning, he says that language is '... not merely the system of signs but also the whole repertory of semantic reaction which the signs produce in those who speak and understand the language. The structural assumptions implicit in the language are of necessity reflected in *behavioural reactions* (emphasis added)' (Hayakawa, 1954: p.128).

Consistent with these views, McNamara and Moores (1982) point out that, in processing data, the ways in which humans filter and process (ie decoding) the input stimuli will differ according to their individual backgrounds, experiences and cultural customs, ie those things which determine connotative meaning. McNamara et al also note that '... to the extent that an individual's meaning system influences their judgement then the

meaning accounting concepts have for individuals can be important in evaluating the appropriateness of competing accounting approaches' (McNamara et al, 1982: p. 3).

The aforementioned importance is highlighted in the work of Hronsky (1993) and Hronsky and Houghton (2000). The primary motivation for their studies is that, although the link between connotative meaning and decision behaviour is theoretically justifiable it had not, at that time, been tested (Hronsky, 1993: p.28). They examine and empirically test the impact of connotative meaning on accounting decision making. They conclude that, with respect to the concept of 'extraordinary items', there exists a clear association between differences in the connotative meaning of accounting information and the behavioural outcomes made on the basis of that information.

1.4.1 Meaning and Uncertainty Terminology

One of the principal ways in which accounting standard setting bodies communicate concepts and legal requirements to other participants in the external reporting environment is through authoritative accounting pronouncements such as accounting standards. As outlined in the previous examination of communication and meaning theory, the connotative meaning of words within these pronouncements play a central role in communication. Further, the meaning of these words can either assist or hinder the consistency of decision outcomes dependent upon the perceived meaning of words and concepts communicated to accounting standard users. As would be expected therefore, '... a goal of communication is to avoid misunderstanding' (Amer, Hackenbrack and Nelson, 1994: p. 127) and another goal is to increase the consistency of auditing and accounting treatments (Joyce and Libby, 1982; Ashton, 1983; SFAC 2 and SAC 2).

The aforementioned goals highlight two common areas of research concerning the use of uncertainty terminology. That is: (a) whether there is subjectivity or ambiguity in their meaning; and (b) whether there is consistency in decision outcomes that are dependent upon their interpretation[15]. Studies such Budescu and Wallsten (1985) report a high degree of between-subject consensus on the meaning of phrases that describe

[15] Two other areas of research in this area concern elicitation techniques and the effects of specific contexts on meaning and decision processes. Both these areas will be addressed in later chapters.

extreme degrees of probability such as 'never' and 'always'. However, the general conclusion in most studies about the meaning of uncertainty expressions is that of ambiguity and lack of consensus about their meaning. The absence of consensus is linked to:

(a) Individual language usage (which, in many studies, is used as a proxy for culture) by researchers such as Goocher (1965), Bashaw and Anderson (1968), Oda (1970), Strachan and Gerbasi (1973), Moore and Thomas (1975), Budescu and Wallsten (1985), Davidson and Chrisman (1991), Secord and Budiman (1993), Laswad and Mak (1994); and

(b) Context in studies by Cohen, Dearnley and Hansel (1958), Pepper and Prytulak (1974), Pepper (1981), Schultz and Reckers (1981), Beyth-Marom (1982) and Raghunandan, Grimlund and Schepanski (1991).

In other words, the findings of these studies seem are consistent with the theories of communication and meaning. For example, Beyth-Marom (1982) reports high variability in the interpretation of verbal probability expressions and the variability increases when interpreted in context. Similarly, Brun and Teigen report '... different contexts influence the interpretation of probability terms and in many cases, but not always, lead to higher between subject variability than when the terms are judged in isolation ...' (1988: p. 390).

Language and context of interpretation are not the only factors linked with variability in the meaning of uncertainty terms. That is, the occupation or professional background of the interpreter may also play a significant role in the interpretation process. Oliver (1974) measures the semantic meaning of eight important accounting concepts held by seven selected professional groups. All the groups are involved in the production and use of financial accounting information and Oliver (1974) examines the effectiveness of communication between these groups. He reports highly significant between-group differences in the meaning of six of the eight concepts. Houghton (1987) uses a similar technique (the semantic differential) to examine both the connotative meaning and the cognitive structure within which meaning is held. Two groups, accountants and private

non-institutional shareholders, are included in the study. With respect to the phrase 'true and fair view', significant between-group differences are found to exist with respect to both meaning and cognitive structure. The latter is found to be more complex in the accountant group than in the private shareholders.

While the studies of Oliver (1974) and Houghton (1987) do not specifically examine probability terminology, they support Kyburg (1970) who does examine the meaning of uncertainty expressions. Kyburg reports that interpretations are unique not only to specific contextual stimuli, but also to specific fields of inquiry. Taking these findings one step further, other researchers examine the meaning of uncertainty expressions held by subjects taken from within a specific field of inquiry (for example, Laswad and Mak (1997) and Laswad and Mak (1999/2000)). One reason for this type of study in an accounting context is that, high between-subject variability carries important implications for the consistency of auditing and accounting treatments.

Further reasons exist for studies that examine the meaning of uncertainty expressions between subjects taken from within a specific field of inquiry. One that is often cited lies in the belief that interpretation variability does not pose a serious communication problem unless the language users are unaware that such variability exists (Amer, Hackenbrack and Nelson, 1994). For example, the phrase 'it is uncertain' may be chosen because a person is reluctant to commit to a specific probability estimate. However, if the phrase is then interpreted as meaning a subjective probability in the range 40%-65% a communication failure may occur. Brun and Teigen (1988) report (a) considerable between-subject variability (and even more significant when interpreted in context); and (b) an absence of any significant appreciation of the extent of the variability. Amer, Hackenbrack and Nelson (1994: p. 126) report similar results using audit managers with '... substantial between auditor variance in interpretation and low levels of variance awareness'.

1.4.2 Preference or Bias and the Meaning of Uncertainty Terminology

One further aspect of probability judgement concerns research undertaken from the perspective of 'subjective expected utility theory'. As noted by Wright and Ayton (1987: p.1) the aforementioned term is often replaced by the more simple expression 'decision theory'. The same authors also note that decision theory has its basis in statistics and economics and basically proposes that two independent types of information are crucial in effective decision making: (a) the subjective probabilities attached to events occurring; and (b) the subjective values or utilities attached by the decision maker to the outcomes.

The latter point is important for the purposes of this discussion. That is, decisions involving human probability judgement may be affected by preference or bias. One well known example is that of 'gamblers fallacy'. Dostoevsky (1866) observes that when playing roulette, few people continue to bet on red after it has previously come up ten times in row. Of course, the belief that black is more likely to come up is flawed since the roulette apparatus has no memory.

The idea that bias, or personal preferences can affect judgements was researched by Slovic (1966) who reports that desirability of an outcome influences its adjudged probability. Tversky and Kahneman (1986), Thaler (1986) and Smith (1989) all test the proposition that incentives affect the cognitive processes of decision makers. In explaining the reasons for variability in the interpretation of probability expressions Beyth-Marom proposes the following as one possible reason: '... people find it difficult to ignore the value of an event while assessing its probability. Values, like probabilities, are subjective, differing from person to person. If, when translating a verbal expression into numbers, the translation is affected by peoples own opinions with regard to the probability of an event, and if they differ in the values they ascribe to the event, then one would expect greater variability in probability values assigned to verbal probability expressions ...' (1982: p. 266).

In the accounting domain, Schultz and Reckers (1981) report that when a contingent loss is highly material, the mean numerical probability associated with a probability expression is 40%. When the outcome is considered to be less material, the mean

expression of the same qualitative expression increases to 46%. However, Jiambalvo and Wilner (1985) examine the meaning of probability expressions (taken from SFAS 5) in similar contexts and report different results. That is, no significant changes in the quantification of probability expressions are found to be associated with changes in the degree of materiality associated with contingent losses.

Harrison and Tommassini (1989) report results that are consistent with those of Jiambalvo and Wilner (1985) but inconsistent with those of Schultz and Reckers (1981). The apparent inconsistency provided some motivation for the study by Raghunandan, Grimlund and Schepanski (1991) who report results that are consistent with those of Schultz and Reckers and report that, as materiality of the contingent loss increased, the point at which subjects chose to disclose by footnote, decreases.

Raghunandan et al conclude that subjects were using a non-sequential decision process. However, alternative explanations exist and Raghunandan et al's research design means the effects of materiality could have occurred at a number of points in the decision process (Amer, Hackenbrack and Nelson, 1995: p.28)[16]. This exact issue was examined in Amer et al's (1995) study and they conclude that auditors' interpretations of 'probable' are positively associated with event base rate while no such effect is observed with interpretations of 'remote' or 'reasonably possible'.

While not specifically examining probability terminology in recognition criteria, Hackenbrack and Nelson (1996) test the effects of incentives on auditor interpretation and application of disclosure requirements that use the term 'reasonably estimated'. They conclude that a negative association exists between audit engagement risk and the aggressiveness of the reporting decision. Further, they conclude that auditors rate the degree to which something (an amount) can be reasonably estimated in a way that justifies their decision. Consequently, it seems reasonable to suggest that: (a) the results of empirical accounting research on the effects of incentives, events or outcomes on probability interpretation are mixed and inconclusive; and (b) studies such as Hackenbrack and Nelson (1996) suggest incentives may affect both auditor interpretation and the process of applying recognition criteria that use probability terms.

[16] This is discussed fully in Chapter 3.

1.5 Summary and Conclusions

This chapter began by discussing the objectives of this thesis. Broadly speaking, it is to examine the effectiveness of communication, through accounting standards, between certain key participants in the Australian external financial reporting environment. More specifically, the research questions consider whether the participants share an understanding about the meaning of recognition criteria, and the decision process prescribed therein. The motivations for this thesis come from (a) The desire to improve the accounting and auditing process and contribute to the literature and understanding of financial statement element recognition decisions; (b) The Australian corporate regulator's increased focus on the wording of recognition criteria (ASIC, 2002; Fonti, 1994); (c) The economic consequences of events such as litigation based on the meaning of individual words used in recognition criteria (Deakin, 1989); and (d) Pronouncements such as Update 105 (ASIC, 1993a) and Accounting Policy Note 36 (ASIC, 1993b) which criticize standard setters and standard users about their interpretations of accounting recognition criteria.

This chapter considers the theories of communication and meaning. It examines some of the empirical research on the meaning of uncertainty expressions such as 'probable', 'remote' and 'reasonably possible'. As discussed, a number of studies examine communication in accounting with the common aim of improving the accounting and auditing process. Additionally, an underlying reason is the substantial economic consequence associated with ineffective communication. In these respects, the present study has a similar rationale for being conducted.

In the study of communication, there is no one universally accepted model but there are critical elements common to all. In summary, communication involves the transmitting of messages between parties. Messages are selected from available sources and encoded and decoded by participants in the communication process. The code used by these participants is an organised system of meaning consisting of the physical symbols which represent something and the rules or conventions which underpin how, and in what context, the signs can be used by the members of a culture to convey meaning. The sharing of meaning will depend upon the parties knowing the rules and conventions used to code the message, upon the sharing of similar concepts of external reality and

upon the context in which the message is transmitted and received. The effect(s) that a received message has upon the behaviour of the receiver is dependent upon the perceived meaning of the message. More specifically, the connotative meaning of communicated messages is the critical aspect of meaning that has been clearly associated with different behavioural responses.

Accounting can be viewed as a code or language governed by generally accepted accounting principles and authoritative pronouncements such as accounting standards. Therefore, effective communication within the accounting sub-culture or community will depend upon the parties to the communication process, knowing the rules and conventions by which the signs are selected to form messages. Further, effective communication will depend upon a sharing of meaning between these parties, which in turn is dependent upon a commonality of background, experiences, incentives, values and assumptions. Without shared meaning effective communication can not occur and resources may be allocated in a sub-optimal manner.

The interpretation and meaning of uncertainty expressions outside the accounting domain has been the subject of considerable empirical research. Results of some studies indicate the existence of considerable variability in the meaning of these terms. Some research suggests that the connotative meaning of probability terms may be significantly influenced by factors such as language and culture, context, the cognitive structure of those within sub-cultures or fields of inquiry and the utility or value placed on decision outcomes that are dependent upon the perceived meaning of the words.

In the accounting domain, uncertainty expressions are often used in criteria prescribed for the recognition of financial statement elements. The results of empirical accounting research that address whether incentives, events or outcomes affect the meaning of these expressions are mixed. Harrison and Tommassini (1989) and Jiambalvo and Wilner (1985) report context having little effect. In contrast to this are the results of Schultz and Reckers (1981), Raghunandan Grimlund and Schepanski (1991) and Amer, Hackenbrack and Nelson (1995). As will be discussed in next chapter, alternative explanations exist for the results and inconsistencies between many (but not all) of these studies and provide an additional reason for this study.

CHAPTER 2

PROBABILITY TERMINOLOGY IN AUSTRALIAN ACCOUNTING STANDARDS: THE SHARING OF MEANING

2.0 Objectives and Structure of Chapter Two

A crucial and perhaps most important way in which accounting standard setters communicate with others in the external reporting environment is through authoritative accounting pronouncements. These pronouncements include accounting standards[1] and, as discussed in the previous chapter, some accounting standards prescribe criteria for the recognition of financial statements elements (for example SFAS 5 or AASB 1011). It is not uncommon for the recognition criteria to use terms that convey some level of probability or uncertainty (for example, 'probable' or 'expected beyond any reasonable doubt'). The meaning of these probability terms becomes a test or benchmark that must be satisfied before recognition of financial statement elements can occur. Therefore, there is a clear link between the meaning of the recognition criteria (and, in particular, the probability term(s) embedded therein) and the recognition of assets, liabilities, expenses and revenues in the body of financial statements. Given the economic significance of financial statement elements, the first of this thesis' research questions has some importance, ie do auditors[2] share an understanding with standard setters or regulators about the meaning of probability expressions in financial element recognition criteria?

The principal objectives in this chapter are to lay the groundwork for, and develop hypotheses that flow from: (a) the first research question (stated above) and (b) the research question which examines an association between research design (within-subject vs. between-subject) and auditor interpretations of probability terms in recognition criteria[3]. This latter question (as indicated in Chapter 1) underpins the

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[1] Under the Australian Corporations and Securities Legislation, preparers of general purpose financial reports are legally required to prepare those reports in compliance with accounting standards approved by the Australian Accounting Standards Board.

[2] As discussed in Chapter 1, auditors are selected for examination in this study because they are important participants in the external financial reporting environment. As part of their role, auditors are required to issue an opinion as to whether financial statements have been prepared in compliance with legally approved accounting standards.

[3] The other research questions and related hypotheses are discussed in Chapter Three.

research design that that is used to test all other research questions considered in this thesis.

The remainder of this chapter has eleven (11) sections. Section 2.1 begins by discussing the basis for selecting the recognition criteria examined in this thesis. The discussion, hypothesis development, hypothesis testing and analysis in the present study are conducted on the basis of the recognition criteria and relevant pronouncements in place at the time of data collection and hypothesis testing. Having said that, only minor changes in some of the selected recognition criteria have occurred since data collection and all except one of the same recognition tests examined in this thesis remain contemporary as at November 2004. Importantly, the changes do not impact on the major findings of this thesis. Nevertheless, further discussion of those changes that have occurred since data collection, along with any associated limitations, takes place in this thesis' final chapter.

Following section 2.1, sections 2.2 - 2.7 examine each of the selected recognition criteria and the probability terms embedded therein. Additionally, these sections analytically review the meaning of these terms as held by the Australian Accounting Standards Board (AASB) and the Australian Accounting Research Foundation (AARF) (ie the Australian standard setting bodies). Section 2.8 analytically reviews the meaning held by the Australian Securities and Investments Commission (ASIC) (ie the corporate regulator). Section 2.9 then compares the meaning held by standard setters with that held by regulators. Comparing the meaning held by standard setters and regulators in sections 2.2-2.9 will facilitate a comparison of their meaning with that held by auditors. The latter is determined by laboratory experiment in the present study. Section 2.10 considers relevant empirical accounting studies and section 2.11 concludes the chapter with a statement of three hypotheses related to the first research question.

2.1 Selection of Recognition Criteria

As discussed in Chapter One, the intention in this thesis is to examine the effectiveness of communication between key participants in the external financial reporting environment. Examining the interpretation and application of financial element recognition criteria operationalizes this objective by these participants. One of these

participants is the Australian Securities and Investments Commission (ASIC)[4]. Given that the ASIC's regulatory powers extend only to legally mandate accounting standards, the choice of recognition criteria examined in this thesis is restricted to those that are legally mandated.

As a second criterion for selection, it was decided that, rather than limiting the study, it should examine all recognition criteria that use differing probability terms in their language. This criterion ensures the inclusion of all the probability terms used in recognition criteria and the majority of financial element recognition criteria in legally mandated Australian accounting standards[5]. After a review of all relevant Australian accounting standards, five are consistent with the selection criteria. They are:

(a) AASB 1009: Accounting for Construction Contracts;
(b) AASB 1011: Accounting for Research and Development Costs;
(c) AASB 1019: Measurement and Presentation of Inventories;
(d) AASB 1020: Accounting for Income Tax (Tax-Effect Accounting); and
(e) AASB 1022: Accounting for the Extractive Industries.

2.2 AASB 1009: Accounting for Construction Contracts

Accounting standards such as *AASB 1009: Accounting for Construction Contracts* (AASB 1009) are approved by the AASB and given legal status under the Australian Corporations and Securities Legislation. Like all approved standards, AASB 1009 contains legally mandated provisions (sometimes referred to as 'black letter' provisions or the 'standard proper') and a commentary section that is not, *prima facie*, legally

[4] As discussed in Chapter 1, ASIC is the Australian equivalent of the SEC in the United States.

[5] At the time of data collection and testing hypotheses in this study, the following was true. The recognition criteria for financial elements in *AASB 1008: Accounting for Leases* did not use probability terminology and was therefore not relevant for this study. Additionally, the recognition criteria in *AASB 1013: Accounting for Goodwill* were not examined because (a) the standard uses the same probability terminology as recognition criteria in *AASB 1019: Measurement and Presentation of Inventories* which is examined in the present study; (b) a preference was given to the inventory standard because the unidentifiable nature of goodwill might, in someway, confound judgements concerning the meaning of relevant recognition criteria and the same concerns were not held in the case of inventory; and (c) recognition criteria pertaining to intangible assets are considered in the examination of AASB 1020 recognition criteria.

mandated[6]. Rather, it is intended by standard setters to aid in the interpretation of the standard. Irrespective of its legal status, the commentary is important for this discussion because it goes to the intentions of standard setters and is indicative of the meaning held by them concerning black letter provisions.

AASB 1009's main purpose is to prescribe the methods by which reporting entities account for profits, losses and disclose information relating to long term construction contracts. The standard indicates that material losses on construction contracts shall be brought to account as soon as they are *foreseeable* (AASB, 1986: pp. 954-955). The reader is then referred to the commentary section entitled 'Provision for Foreseeable Losses'. In this section it is explained that, when the likelihood of a material loss is *probable,* the loss and the related provision must be recognised regardless of the work performed on the contract (AASB, 1986: p. 957). AASB 1009 does not define 'foreseeable' or 'probable'. Although these terms are dissimilar, they are used as though conveying probabilities that do not facilitate significantly different outcomes in recognition decisions. What then does 'probable' mean?

To some extent, 'probable' is defined in the AASB's *Statement of Accounting Concepts 4: Definition and Recognition of the Elements of Financial Statements* (SAC 4)[7]. Para. 40 describes 'probable' as meaning something '... which is more likely than less likely...' and '... used with its usual meaning and refers to that which can be expected on the basis of available evidence or logic' (AASB, 1995a: p. 97). Commentators such as Lawson (1993) suggest that, in numeric terms, this means something greater than 50%. This view seems consistent with that of the AARF who drafted AASB 1009 and is the body that (jointly with the AASB) plays the central role in developing Australian accounting standards. The AARF released *Accounting Theory Monograph 4: The*

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[6] In some circumstances the commentary, along with other pronouncements issued by the AASB or the ASIC, will be legally binding on reporting entities. That is, where black letter provisions are ambiguous or obscure, the ASIC or the courts are required to look to the commentary or other explanatory material for guidance (Sec109J of the 1998 Corporations Legislation). Further, the ASIC has indicated that (a) it will employ the commentary in its own interpretations of legally binding provisions and (b) it expects others in the reporting environment to do the same (ASIC, 1993b: p.2).

[7] SAC 4 was issued by standard setters as part of an accounting conceptual framework. It is not legally mandated but should provide 'persuasive' guidance for financial statement preparers. Additionally, the AASB have stated that SAC 4's primary purpose is to guide standard setters in the development of legally mandated accounting standards (AASB, 1995b). Therefore, SAC 4 assists this study in establishing the meaning held by standard setters.

Definition and Recognition of Liabilities (ATM 4) which states that '... probable means ... the probability of occurrence is 0.5 or greater ...' (Kerr, 1984: p.34)[8].

In summary then, after considering the wording in AASB 1009, SAC 4 and ATM 4, Australian standard setters appear to interpret 'foreseeable' as synonymous with 'probable' (at least in the recognition decision context). Standard setters have defined 'probable' as meaning something (a) '... which is more likely than less likely...'; and (b) '... the probability of occurrence is 0.5 or greater ...'. Taken together, these two definitions suggest standard setters have quantified the meaning of 'probable' (and its synonym 'foreseeable') as meaning something greater than 50%.

2.3 AASB 1011: Accounting for Research and Development Costs

The stated purpose of *AASB1011: Accounting for Research and Development Costs* (AASB1011) is to prescribe the method by which reporting entities account for and disclose information relating to research and development expenditure. The standard prescribes a method of accounting '... whereby research and development costs are matched against related benefits when such benefits are *expected beyond any reasonable doubt* (emphasis added) ...' (AASB, 1987: p. 983). Clause .31 of the standard also states that costs incurred on a research and development project may be recognised as an asset in the financial statements where such costs are *expected beyond any reasonable doubt* to be recovered. The phrase is not defined in the standard proper[9]. However, the commentary indicates that, in some instances, applied research costs '... are associated with identifiable projects and a discernible relationship may exist between these projects and *probable* (emphasis added) future benefits ... In these cases, if the costs ... meet the test outlined in clause .31 they are to be deferred and amortised over future financial years' (AASB, 1987: p. 990).

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[8] Although ATM 4 deals with liabilities, the AASB has made it clear that no distinction should be made, and symmetry should exist, between the meaning of probability terms used in recognition criteria for each financial statement element (AASB, 1995a).

[9] A similar (although not identical) probability phrase is used in Australian criminal law cases where the prosecution must establish the guilt of the accused *beyond a reasonable doubt*. The High Court of Australia has always insisted that it is not the role of the courts to define 'beyond a reasonable doubt'.

While the reference to 'probable future benefits' is in relation to applied research costs only, standard setters have specifically expressed the view that recognition criteria should be consistent both within and between financial statement elements (AASB, 1995a). This, along with the reference to *probable* future benefits meeting the *expected beyond any reasonable doubt* test in clause .31, indicates that standard setters appear to interpret 'expected beyond any reasonable doubt' as being synonymous with 'probable' and, as previously discussed, meaning something greater than 50%.

2.4 AASB 1019: Measurement and Presentation of Inventories in the Context of the Historical Cost System

The principal objective of *AASB 1019: Measurement and Presentation of Inventories in the Context of the Historical Cost System* (AASB 1019) is to specify the methods of measuring inventories, the manner in which costs are to be assigned to inventories and the disclosure requirements pertaining to inventory (AASB, 1989(a)). Asset recognition criteria are not prescribed in the black letter of the standard but the commentary explains that if it is not *probable* there will be sufficient future revenue to cover the costs of inventory, then irrecoverable costs should be expensed.

As discussed earlier, the commentary is important for this discussion because it provides an indication of the intentions and meaning held by standard setters concerning requirements within accounting standards. In the case of AASB 1019, the commentary is unique in that the black letter of the standard is silent with respect to asset recognition criteria. However, as previously noted, where black letter provisions are ambiguous or obscure the commentary acquires legal status. Therefore, in practice, financial statement preparers must ensure future benefits attributable to inventory are, at least, *probable* of eventuating before recognition of the asset occurs. The meaning of 'probable' (held by standard setters) has already been discussed in section 2.2.

Rather, it is up to the jury to determine what is meant by the term, and the trial judge should attempt neither to define the term nor elaborate its meaning (Dixon, 1961).

2.5 AASB 1020: Accounting for Income Tax (Tax-Effect Accounting)

AASB 1020: Accounting for Income Tax (Tax-Effect Accounting) (AASB 1020) is somewhat different from the accounting standards discussed previously. Although a legal requirement since 1989, the standard has only ever received interim approval from the AASB. One reason for the standard receiving interim approval only lies in the dichotomous nature of the asset recognition criteria therein. The standard prescribes the liability method of accounting for income tax. It states that where future income tax benefits (FITB) are attributable to the tax effect of timing differences, the benefits should only be recognised in the financial statements where they are *assured beyond any reasonable doubt* (AASB, 1989b). However, where a company incurs a tax loss, FITBs attributable to the tax loss and any timing differences may only be recognised in the financial statements if realisation of benefits is *virtually certain* (AASB, 1989b).

Differentiation on the basis of whether or not a company is in a tax loss situation is clearly inconsistent with the view held by standard setters that recognition criteria should be consistent within and between financial statement elements (AASB, 1995a). Hence, the standard has only ever received interim approval. Nevertheless, AASB 1020 is a contemporary, legally mandated Australian accounting standard that must be complied with until such time as it is replaced. Consequently, it provides a useful opportunity to examine judgements concerning the meaning of uncertainty expressions used in financial element recognition criteria.

The terms 'assured beyond any reasonable doubt' and 'virtually certain' are overtly different but little explanation is provided as to how each term should be interpreted. The commentary indicates that where a company has incurred a tax loss, significant doubts must exist about the ability of such a company to realise the related future income tax benefits. Consequently, an FITB should only be recognised where realisation is virtually certain. The commentary goes on to say that '... the test of virtual certainty will only be met in rare and exceptional cases' (AASB 1989b: p. 1140). In a strict sense, the wording here pertains only to the frequency of when the recognition criteria will be met. However, in the context of the standard itself, it also implies that, in relative terms, 'virtually certain' connotes a higher level of certainty than does 'assured beyond any reasonable doubt'.

This view was confirmed by standard setters in DP 22 which states '... it is clear that the "virtual certainty" criterion is intended to be more stringent than the "beyond any reasonable doubt" criterion ... (Keys, 1995: p.73). As a further indication of meaning, DP 22 also states ' ... the "assured beyond any reasonable doubt" criterion is clearly a more stringent criterion than the "probable" criterion adopted in SAC 4' and ... it is clear that the "virtual certainty" criterion ... is significantly stricter than the "probable" criterion' (Keys, 1995: p.72-73).

In summary then, standard setters interpret 'virtually certain' as conveying higher degrees of certainty than 'assured beyond any reasonable doubt' (ie alternative uses of these expressions facilitate different outcomes in FITB recognition decisions). Further, for standard setters, both terms connote higher degrees of probability than 'probable'.

2.6 AASB 1022: Accounting for the Extractive Industries

The stated purpose of *AASB 1022: Accounting for the Extractive Industries* (AASB 1022) is to prescribe methods of accounting for, and disclosing information pertaining to transactions relating to the extractive industries (AASB, 1989c). Although a legal requirement since 1989, the standard has only ever received interim approval. Nevertheless, it is also a contemporary, legally mandated Australian accounting standard that must be applied by reporting entities operating in the extractive industry.

In determining whether costs should be capitalised or expensed, AASB 1022 prescribes the 'area of interest' method. Under this method, exploration, evaluation and development costs related to an area of interest shall be carried forward where they are *expected* to be recovered through successful exploitation of the area of interest or, alternatively, by its sale (AASB, 1989c). The commentary then explains that for any one area of interest, exploration and evaluation costs should be carried forward where there is a *reasonable probability* of success in that area of interest. Note that the commentary refers to exploration and evaluation costs only and no further discussion regarding the recognition of benefits associated with development costs, or the term 'expected', exists within AASB 1022.

While AASB 1022 provides no further explanation on the meaning of 'expected', other approved accounting standards do and provide a means of determining the meaning held by standard setters when using the word 'expected'. *AASB 1013: Accounting for Goodwill* (AASB 1013) uses the words 'probable' and 'expected' interchangeably. To highlight this, AASB 1013 indicates that goodwill should only be brought to account when it is *probable* that the future benefits embodied in the unidentifiable assets will eventuate (AASB, 1996: p. 1028). Additionally, the standard defines purchased goodwill as meaning future benefits that are internally generated by a vendor prior to the date of acquisition and are *expected* to flow to the purchaser (AASB, 1996: p. 1028). Further, AASB 1013 prescribes that '...the period over which goodwill is to be amortised must ... reflect the amount and timing of *expected* (emphasis added) future benefits' (AASB, 1996: p. 1029). This use of 'probable' and 'expected' indicates standard setters interpret their meaning as similar and believe the use of either would not result in significantly different recognition decisions outcomes.

2.7 Summary of the Meaning held by Standard Setters on the Selected Probability Terms

Table 1 summarises the preceding discussion concerning the meaning of the six probability expressions selected for examination. While the six terms are linguistically

Table 1: The Meaning of Probability Terms Held by Standard Setters

Accounting Pronouncement	Term	Qualitative or Relative Meaning	Minimum Quantitative Meaning
AASB 1019	Probable	Something which is more likely than less likely.	Something greater than 50%.
AASB 1009	Foreseeable	Not significantly dissimilar from 'probable'.	Something greater than 50%.
AASB 1011	Expected beyond any reasonable doubt.	Not significantly dissimilar from 'probable'.	Something greater than 50%.
AASB 1022	Expected	Not significantly dissimilar from 'probable'.	Something greater than 50%.
AASB 1020	Assured beyond any reasonable doubt.	Significantly lower than 'virtually certain'.	Not quantified*
AASB 1020	Virtually certain	Significantly higher than 'assured beyond any reasonable doubt'.	Not quantified*

* Except that it means something significantly higher than the numeric equivalent of 'probable'.

different, the preceding analysis shows that the meaning held by standard setters concerning 'probable', 'foreseeable', 'expected' and 'expected beyond any reasonable doubt' does not appear to differ. That is, they use these terms as synonyms and as if their interpretation and application would not facilitate significantly different outcomes in recognition decisions. Quantitatively, they interpret the minimum numerical probability connoted by 'probable' and its synonyms as greater than 50%.

With respect to the two probability terms used in AASB 1020, standard setters interpret 'virtually certain' as meaning a higher level of certainty than 'assured beyond any

reasonable doubt' and, in the context of asset recognition criteria, the more stringent test of the two. While standard setters have not quantified their numeric meaning, they interpret the minimum level of numeric probability attributed to either term as significantly higher than that conveyed by 'probable'.

2.8 Meaning Held by the Australian Securities and Investments Commission

The Australian Securities and Investments Commission (ASIC) is responsible for monitoring and enforcing compliance with corporate legal requirements such as approved Australian accounting standards. Under sections 13 and 14 of the Australian Securities and Investments Commission Law, the ASIC has the power to investigate suspected non-compliance and, if appropriate, to instigate prosecutions or civil actions against a corporations, its officers or its auditors. To be effective in this role[10], it is essential that the ASIC share an understanding with standard setters about the requirements within accounting standards. Where meaning is not shared, the ASIC may not monitor, investigate or enforce compliance with the intended requirements. Further, without shared meaning, the ASIC may monitor, investigate or seek to enforce compliance with unintended requirements. Consequently, the sharing of meaning by these two parties is important.

Reflecting this importance, the ASIC considers the probability terminology used in recognition criteria as a key issue (ASIC, 2002 and Fonti, 1994). Their concerns have been captured in numerous pronouncements two of which include: *Update 105 Accounting Commentary: Statement of Accounting Concepts 4* (U105) (ASIC 1993a) and *Accounting Policy Note 36* (APN36) (ASIC, 1993b). Both documents are particularly important for this thesis in that they provide an indication of the meaning held by the ASIC.

2.8.1 Update 105 (U105) Accounting Commentary: Statement of Accounting Concepts 4

U105 presented ASIC's position on the adoption of SAC 4 as a legally mandated accounting pronouncement. In principle, ASIC supported the move but opposed the use of 'probable' within the proposed recognition criteria for the following reasons:

> 'The ... test set out in SAC 4 recognising *probable* assets and revenue is not as prudent as that currently practised nor is it as strict as those set out in a number of approved accounting standards, for example, the beyond reasonable doubt and the virtual certainty tests set out in AASB 1020' (ASIC, 1993a: p. 26).

This statement highlights two important points: (a) the ASIC interprets 'probable' as conveying a lower probability than 'assured beyond any reasonable doubt' and 'virtually certain'. This interpretation is entirely consistent with the meaning held by standard setters; and (b) in stating that the proposed use of 'probable' is not as prudent as current practice, it implies the probability conveyed by 'probable' is less conservative or lower than the probability connoted by uncertainty terms in force (which includes all the terms examined in this thesis). At the very least, it indicates the ASIC and standard setters do not share meaning about the synonymity of 'probable', 'expected', 'foreseeable' and 'expected beyond any reasonable doubt'.

In direct support of the above, further evidence on the ASIC's interpretations of 'probable' and 'expected beyond reasonable doubt' is attached as an appendix to U105. Here the ASIC lists perceived inconsistencies between SAC 4 and existing approved accounting standards with one apparent inconsistency being:

> 'SAC 4 permits research and development expenditure to be deferred as an asset when benefits from this expenditure are *probable* (emphasis added). The asset recognition criteria is stricter under AASB 1011 where the test is 'beyond reasonable doubt' (ASIC, 1993a: p. 28).

Clearly the ASIC interprets the term in AASB 1011, ie 'expected beyond any reasonable doubt', as conveying a higher degree of probability than 'probable'. This supports the view previously discussed at point (b) above and, in this respect, the ASIC and standard setters do not share meaning.

[10] 'Effective' is used here to mean the ASIC's regulation of the standard's intended message.

2.8.2 Accounting Policy Note 36

The second published document indicating the ASIC's interpretations of probability expressions is *Accounting Policy Note 36* (APN36). The document was first issued in draft form and invited comment from interested parties. It represents ASIC's response to what it perceived as non-compliance with AASB 1020 by the corporate sector. APN 36 was issued with the intention of providing guidance to auditors, directors and other preparers of financial statements. Additionally, it was intended to promote uniformity in the application of AASB 1020 recognition criteria (ASIC, 1993b).

The draft version of APN 36 is significant in that it provides the ASIC's numeric interpretation of 'virtually certain'. That is ' ... for the test of virtually certain to be met there must be an extremely high level of probability (greater than 95%) that the future income tax benefit will be realised' (ASIC, 1993c: p. 2). The draft version of APN36 is also important in that it indicates the relative meaning of probability terms in AASB 1020. It states the following (in reference to AASB 1020):

> 'Clause .12 states a future income tax benefit shall only be carried forward as an asset where realisation of the benefit can be assured beyond any reasonable doubt ... Clause .13 stipulates a further condition in addition to those stated at clause .12 in that ..., in the case of companies which incur losses, future income tax benefits shall not be brought to account as an asset unless realisation of the benefit is **virtually certain** (ASIC, 1993c: p.1)

Of particular note are the words 'a further condition in addition to those stated at clause .12'. Implicitly, the language infers the ASIC interprets the wording of AASB 1020 recognition criteria as meaning that, to be effective, the term 'virtually certain' must convey a higher degree of probability than 'assured beyond any reasonable doubt'. Therefore, the ASIC and standard setters appear to share meaning with respect to the relative probabilities connoted by these two terms.

2.9 Summary of the Meaning held by the ASIC on the Selected Probability Terms and Comparison with the Meaning held by Standard Setters

While it is not possible to determine the meaning held by the ASIC about all the probability terms this thesis examines, a number of things can be said with some authority. That is, the ASIC interprets probability terms in the following way:

(a) 'Virtually certain' meaning something greater than 95%.

(b) The minimum probability attributed as equal to 'virtually certain' is higher than that connoted by 'assured beyond any reasonable doubt'.

(c) The minimum probability attributed as equal to 'virtually certain' or 'assured beyond any reasonable doubt' is higher than that conveyed by 'probable'.

(d) The minimum probability attributed as equal to 'expected beyond any reasonable doubt' is higher than that connoted by 'probable'.

(e) The meaning connoted by 'probable' is different from that of 'expected' or 'foreseeable' (the direction of difference is unclear).

Table 2 summarises and compares the meaning held by the ASIC with that of standard setters. Importantly, it highlights that the ASIC do not appear to share meaning with standard setters about some of the selected terms. Consequently, the two parties may not share an understanding about the rigour or stringency involved when some of these recognition criteria are implemented in a decision context.

The absence of shared meaning between the AASB and the ASIC (in some instances) raises the possibility of aberrant behaviour occurring. That is, the ASIC consuming finite resources in monitoring or seeking to enforce compliance with requirements never intended by standard setters. Additionally, and, importantly for this thesis, where

Table 2: Comparison of Meaning Held by the ASIC and Standard Setters

Summary of Meaning Held by ASIC	ASIC and Standard Setters Share Meaning	
	Yes	No
The minimum level of numeric probability attributed as equal to *virtually certain* is significantly higher than that connoted by *assured beyond any reasonable doubt.*	✓	
The minimum level of numeric probability attributed as equal to *virtually certain* or *assured beyond any reasonable doubt* is higher than that connoted by *probable.*	✓	
The minimum level of numeric probability attributed as equal to *expected beyond any reasonable doubt* is higher than that connoted by *probable.*		✓
The probability connoted by *expected* and/or *foreseeable* is dissimilar from that connoted by *probable.*		✓

standard setters and regulators do not share meaning, it is questionable whether parties such as auditors could share meaning with both the AASB and the ASIC. Research having some bearing on this question is considered in the next section[11].

2.10 Empirical Research on Meaning Held by Auditors: Patel (1991)

Patel (1991) presented findings on the meaning of the terms used in AASB 1020's FITB recognition criteria. The study had two stages but was in essence designed '... to find if there was clarity in the meaning of these criteria ...' (Patel, 1991: p.21). In the first stage, Patel selected two companies and looked for a correlation between financial distress and growth in the FITB recognised by the company. Using Altman's multi-discriminant analysis model for predicting financial distress (Altman, 1984), Patel

[11] An exhaustive review of all studies that have examined the connotations of probability expressions is not conducted here. As previously discussed, the accounting community can be viewed as a sub-culture with its own code or system of communication (Belkaoui, 1989). Generally accepted accounting principles and authoritative pronouncements such as accounting standards govern the code. The sharing of meaning about these pronouncements depends on parties to the communication process knowing the rules and conventions by which signs are selected and combined to form messages. The sharing of meaning is also dependent upon a commonality of background, experience, interests and assumptions. It follows then that, for the purposes of this thesis, the relevant research is that which addresses the meaning of probability expressions in the Australian context using Australian subjects.

measured the financial position of these companies. He found that both companies could be categorised as bankrupt (under Altman's model) during the latter stages of the period examined. Patel then examined the FITB over the same period. He noted that as the companies became more financially distressed, the size of the FITB became larger. The process was repeated with three other companies with similar (although not identical) results.

Patel concluded the terms 'virtually certain' and 'beyond any reasonable doubt' were ambiguous and that this ambiguity was leading '... companies in financial distress to create massive assets in their published accounts' (Patel, 1991: p.26). Patel then proceeded with the second stage of the study posing what was considered to be 'the relevant question' ie what then do these terms mean?

Questionnaires were mailed to a randomly selected sample of senior staff of 'Big Six' chartered accounting firms, partners of other accounting firms and accounting academics in New South Wales. Respondents were asked: (a) if there was clarity in the meaning of 'virtual certainty' and 'being assured beyond any reasonable doubt' (measured on a Likert scale); and (b) to assign probabilities to each term (within the ranges: > 95%, 91%-95%, 81%-90%, 71%-80%, 61%-70% and 50%-60%). The respondents were also asked to assign probabilities to other probability terms (using the above ranges) one of which was 'probable' as used in Exposure Draft 'ED42C: Definition and Recognition of the Elements of Financial Statements'[12].

Table 3: Results of Patel (1991) (extract of Big Six respondents)

Clarity in the meaning of	**Strongly Disagree**				**Strongly Agree**
	1	**2**	**3**	**4**	**5**
'Virtual certainty'.	2 5%	12 30%	15 39%	9 23%	1 3%
'Being assured beyond any reasonable doubt'.	2 5%	10 26%	13 33%	13 33%	1 3%

[12] ED42C was the exposure draft for what eventually became the previously discussed SAC 4.

Tables 3 and 4 list the results concerning the actual number of responses and percentages for the respondents from the Big Six firms. With respect to clarity in the meaning of 'assured beyond any reasonable doubt', Patel concluded the majority of the big six respondents believed the meaning was clear. With respect to 'virtual certainty', Patel stated that results were difficult to interpret '... as 39% have selected 3 on the Likert scale 1 (strongly disagree) to 5 (strongly agree)' (Patel, 1991: p.28).

Table 4: Results of Patel (1991) (extract of 'big six' respondents)

	> 95%	91-95%	81-90%	71-80%	61-70%	50-60%
The words 'virtual certainty' suggests a probability of at least	24 61%	10 26%	5 13%	0	0	0
The words 'being assured beyond any reasonable doubt' suggests a probability of at least	5 13%	18 46%	10 26%	6 15%	0	0
The word 'probable' suggests a probability of at least	0	3 8%	8 21%	11 27%	8 21%	9 23%

In reference to the quantification of the terms, Patel did not measure for any significant difference between groups but concluded that despite a very high level of probability being assigned to 'virtually certain' and 'assured beyond any reasonable doubt', there existed a lack of clarity in the FITB recognition criteria and the criteria failed the reliability test.

The results from Patel (1991) suggest that respondents may not share an understanding with the AASB or the ASIC. That is, there appears to be considerable overlap between the quantified meaning of the two terms in AASB 1020 (although an absence of significant difference is impossible to test in the case of Patel's reported results). Similarly, there appears to be considerable overlap between the quantified meanings of 'assured beyond any reasonable doubt' and 'probable'. Such a result is also inconsistent with the meaning held by the ASIC and standard setters.

Some caution needs to exercised when interpreting Patel's results. The within-subject design and the quantification of terms outside a decision context create significant doubts about generalizability of the results. That is: (a) subjects may have been sensitive to, influenced by factors that are neither apparent nor influential in between-subject designs; and (b) the absence of contextual interpretation means results may lack external validity (Kyburg, 1970). A further limitation in Patel's study concerns the task that asked respondents to quantify the meaning of each term. Patel's instrument did not allow assigning a probability any lower than the 50%-60% range. Consequently, results may be incomplete and alternative explanations exist for Patel's findings.

2.10.1 Houghton and Walawski (1992)

Houghton and Walawski (1992) overcame some of the limitations in Patel's study. They examined the meaning of the same probability expressions but did so in a controlled laboratory setting, both outside and within a decision context and their design facilitated within and between-subject comparisons. The objective was to determine whether the replacement of the terms within AASB 1020 with the term 'probable'[13] would lead to significantly different outcomes in recognition decisions.

Sixty auditors from Big Six chartered accounting firms in two major Australian cities (Melbourne and Perth) with a minimum of five years experience in the audit field participated in the study. Subjects were randomly divided into three equal treatment groups A, B and C. Group A were given instruments asking them to assign minimum numeric equivalents (between 0 - 100%) to the terms 'beyond any reasonable doubt', 'virtually certain' and 'probable'. Group B were given an instrument that contained two cases along with extracts from AASB 1020 and ED42C concerning the asset recognition criteria. After reading case 1, subjects were asked to assign minimum numerical equivalents to 'beyond any reasonable doubt' and, after reading case 2, to 'beyond any reasonable doubt' and 'virtually certain'. Group C's instrument differed from group B's in that, after reading each case, subjects were asked to provide the minimum numerical equivalent of 'probable'.

[13] As proposed by standard setters in the exposure draft to what would later become Statement of Accounting Concepts 4: The Definition and Recognition of Financial Statement Elements (AASB, 1995a) and commonly known as 'SAC 4'.

The design facilitated, *inter alia*: (a) an examination of the connotative meaning equated by auditors to existing and proposed uncertainty terms outside any context (a replication of Patel's study without the previously mentioned limitation of range); (b) a comparison between group A (who made their judgements outside any context) and groups B and C who made their judgements in a decision context[14]; (c) an examination of whether the case facts affected the consistency of judgements made by subjects within groups B and C; and (d) a comparison between groups B and C for significant differences between the meaning of existing and proposed probability terminology.

Tables 5, 6 and 7 detail results for groups A, B and C respectively. In table 5, Group A indicate the minimum mean probability attributed as equal to 'probable' is significantly

Table 5: Group A Results - Houghton and Walawski (1992)

Probability Expression	Mean	Std. Deviat^{n}
Virtually Certain	91.4%	7.0
Beyond any reasonable doubt	89.6%	9.9
Probable	64.7%	11.7

Table 6: Group B Results - Houghton and Walawski (1992)

Probability Expression	Case 1		Case 2	
	Mean	Std. Deviat^{n}	Mean	Std. Deviat^{n}
Beyond any reasonable doubt	80.9%	16.2	81.7%	9.7
Virtually certain	N/A	N/A	93.2%	7.9

less than 'virtually certain' ($t = 8.3$, $p < .001$) and 'beyond any reasonable doubt' ($t = 6.0$, $p < .001$). These results are consistent with the meaning held by the ASIC and

[14] 'Decision context' refers to the elicitation of judgements and decisions in the context of case(s).

standard setters. However, no significant difference existed between 'virtually certain' and 'beyond any reasonable doubt' ($t = 0.6$, $p = 0.34$). This is contrary to the intentions and interpretations of both standard setters and the ASIC. For group B, 'virtually certain' conveys a significantly higher probability than 'beyond any reasonable doubt' in the decision context (case 1: $t = 3.2$, $p < .001$; case 2: $t = 4.3$, $p < .001$). This result is clearly different from that reported for group A. At least two possible explanations exist for the difference: (a) group A's instrument did not contain extracts from the relevant accounting pronouncements; and (b) group A made their judgements outside any decision context. Additionally, it is worth noting that subjects in both groups were asked to interpret the meaning of 'beyond any reasonable doubt'. However, AASB 1020 uses the expression 'assured beyond any reasonable doubt'. Consequently, the phrase interpreted by groups A and B is not the phrase used in AASB 1020 (although group B were given an extract from AASB 1020 which contained the correct term).

Table 7: Group C Results - Houghton and Walawski (1992)

Probability Expression	Case 1		Case 2	
	Mean	Std. Deviat[n]	Mean	Std. Deviat[n]
Probable	54.4%	13.1	52.5%	14.0

Table 7 lists results concerning the meaning of 'probable' in a decision context. Between-case, within-subject comparisons in group C are somewhat similar to those observed for group B. That is, despite the fact 50% of the subjects in group C assigned a different quantification to the term 'probable' across the two cases, no significant difference existed in between-case quantification ($t = 0.45$, $p = 0.65$). Two reasons offered for this were: (a) as evidenced in table 7, dispersions around the mean were high; and (b) of the ten subjects who changed their responses across cases, half increased and half decreased the numerical probability they adjudged to be the equivalent of 'probable'. This may have tempered the significance of any difference.

Of particular relevance to this thesis are the results concerning 'probable'. As noted by Houghton and Walawski, in case 1, eleven, and in case 2, eight of the subjects assigned

a minimum level of probability that was greater than 51%. They stated that the result '... appears inconsistent with much of the ... Australian accounting literature on the quantification of 'probable' and the interpretation of the ... recognition criteria in the conceptual framework ...' (1992: p. 5).

The results of Houghton and Walawski (1992) hint at an absence of shared meaning between auditors and standard setters concerning 'probable'. However, the result may be due to subject's lack of familiarity since, at that time, the term was not used in the recognition criteria of any legally/professionally mandated Australian accounting pronouncement. Further, interpretations may be affected by the absence of any legal or professional sanction. Consequently, it is difficult to conclude that the study's results are representative of auditor judgements in contemporary practice and the question of auditors and standard setters sharing meaning concerning 'probable' remains unresolved for this thesis.

2.10.2 McCarthy and Mirza (1994)

The study by McCarthy and Mirza (1994) is similar to the two previously discussed studies in that it examined probability terminology in AASB 1020 and SAC 4[15]. However, their study differed in that they used corporate accountants as subjects and the principal objective was '... to examine whether the recognition or non-recognition of the FITB asset, where carry forward losses exist, can be explained by the interpretation of the asset recognition criteria by the corporate group accountant' (1994: p.2).

McCarthy and Mirza mailed a questionnaire to group accountants of 120 companies that had incurred or were carrying forward tax losses. Fifty eight respondents completed the questionnaire and 28 had recognised an FITB in their accounts and 30 had not. Respondents were asked: (a) to indicate numerical equivalents of 'being assured beyond any reasonable doubt', 'virtual certainty' and 'probable' using the ranges 50 - 60%, 61 - 70%, 71 - 80%, 81 - 90% and 91%[16]; and (b) to indicate a probability (without any ranges being suggested) to the same three terms except that the instrument used the term

[15] However, unfortunately the results concerning the meaning of 'probable' are not reported in McCarthy and Mirza (1994).

'assured beyond reasonable doubt'. The omission of the word 'any' from the latter phrase was presumably a typographical error but one which could have connotative significance.

McCarthy and Mirza found that, with respect to both the terms used in AASB 1020, no significant difference exists between the meaning held by accountants that had recognised FITBs in their accounts and those that had not. In t-testing the significance of difference, it is unstated as to whether they used the responses to the question which requested subjects use the pre-determined ranges or the responses to the question which did not. However, it would appear to be the latter since the t-test relies on a specific numeric mean for each term. This is important because, as discussed above, their results pertain to the meaning of 'assured beyond reasonable doubt' (the word 'any' is missing from the phrase used in AASB 1020).

Table 8: Comparison of Combined Sample: 'Beyond Any Reasonable Doubt' versus 'Virtual Certainty' from McCarthy and Mirza (1994: p. 8)

	Beyond Any Reasonable Doubt	Virtual Certainty
Sample Size	58	58
Mean (%)	90.7328	94.045
Median (%)	95	95
Variance (%)	67.5458	12.4812
H_2: Beyond any reasonable doubt < Virtual certainty F* 5.41178 Difference between means: -3.30172 t-test (1 tailed probability): -2.81084 Significance level: 0.0029		

[16] Whether the researchers meant respondents to tick the '91%' range where they believed the phrase was equal to or greater than 91% is not determinable from the instrument.

These same responses were used in testing a second hypothesis concerning differences between the meaning of the two terms in AASB 1020. McCarthy and Mirza pooled the results of both groups and report a significant difference between the meaning of 'virtually certain' and 'assured beyond any reasonable doubt' with the former connoting a higher degree of probability (refer Table 8 for an extract of results from McCarthy and Mirza, 1994). This suggests that group accountants, the ASIC and standard setters share the relative meaning of these two expressions.

However, the results in this study once again reflect a within-subject comparison. As such, subjects may simply have responded in accordance with the prescribed requirements of AASB 1020. In other words, a demand effect may have contaminated the results. Further, and as previously mentioned, subjects assigned a numeric meaning to the phrase 'assured beyond reasonable doubt'. The omission of the word 'any' means responses are in relation to an uncertainty term that differs from the one used in AASB 1020 (or any other Australian accounting pronouncement). Consequently, the question of whether the subjects in the study share meaning with standard setters or the ASIC remains unresolved.

2.10.3 Laswad and Mak (1999/2000)

The study by Laswad and Mak (1999/2000) extends on their earlier work (Laswad and Mak (1997)) which is regarded as having pioneered a technique to test the 'communication efficiency' of probability terms used in accounting recognition criteria (Simon, 2002: p.602). 'Communication efficiency' describes the level of agreement or consensus among and within groups in the interpretation of probability expressions Laswad and Mak (1999/2000: p. 242).

Laswad and Mak (1999/2000) compare interpretations made by standard setters with those of practising accountants with respect to probability expressions in New Zealand accounting standards. Each subject in their study was asked to evaluate 20 probability expressions and, for each expression, give the numerical probability (on a scale of 0 - 100%) that the expression best represents [17]. The subjects were also asked to provide a numerical probability range that denotes the meaning of each expression. The latter is

[17] Elicitation of the meaning was undertaken through a survey and outside a decision-context.

used by Laswad and Mak to test the communication efficiency (consensus) for each expression.

Laswad and Mak (1999/2000) concluded that, between standard setter and accountant groups, the ranking of probability expressions was generally similar. However, they also report considerable within-group disagreement about the interpretation of probability expressions and conclude there is a need for improved guidance and communication on the interpretation of probability terminology in New Zealand.

While it is difficult to generalize the results of Laswad and Mak (1999/2000) to Australian conditions it is important to note a number of interesting findings. Firstly, for both standard setters and accountants, the mean numerical interpretations of 'probable' were 65% and 64.07% respectively. This suggested that the term 'probable', although defined as meaning 'more likely than less likely'[18], was interpreted as conveying a much higher probability by both the individual members of the standard setting body and the accountants. Laswad and Mak note the same definition (ie 'more likely that less likely') is used by Australian standard setters in SAC 4 and suggest '...that the definition of 'probable' in the Statement of Concepts and the Australian Statement of Concepts No. 4 is not appropriate (1999/2000: p. 249). Laswad and Mak (1999/2000) also report that, for almost all the expressions examined in their study, the quantitative meaning held by standard setters was lower (ie more conservative) than that held by accountants. In their study, the exception pertained to the meaning of 'virtually certain', an expression examined in the present study.

2.11 Summary and Development of Hypotheses

An objective of this thesis is to determine whether there exists effective communication between standard setters, regulators and auditors. Achieving this objective is operationalized, *inter alia*, through the first research question. That is, with respect to the probability expressions embedded in financial element recognition criteria, do auditors share meaning with standard setters and/or regulators?

[18] Defined by the New Zealand standard setting body – the Financial Reporting Standards Board (FRSB) in 'Statement of Concepts for General Purpose Financial Reporting' (FRSB, 1993).

To address the question, it was first necessary to understand the meaning held by standard setters and regulators. This understanding was obtained through analytic review of authoritative accounting pronouncements[19]. As determined in the previous sections of this chapter, standard setters interpret 'probable' as meaning something greater than 50%. They interpret the terms 'expected', 'expected beyond any reasonable doubt' and 'foreseeable' as meaning something similar to 'probable' (based on analytic review of their pronouncements). Regulators do not appear to share this meaning. In their interpretations, 'probable' conveys a significantly lower probability than 'expected beyond any reasonable doubt'. However, regulators and standard setters do seem to share the relative meanings of 'probable', 'assured beyond any reasonable doubt' and 'virtually certain' (in ascending rank order).

No reported research has compared the meaning of financial element recognition criteria as held by Australian standard setters, the ASIC and auditors. Further, no reported research has examined the meaning of 'expected', 'assured beyond any reasonable doubt', 'expected beyond any reasonable doubt', 'foreseeable' and 'probable' as held by Australian auditors in a decision context[20]. Previous research on the meaning of 'assured beyond any reasonable doubt' and 'virtually certain' is limited in its contribution because the studies use a within-subject design, questionable elicitation technique and/or did not use a decision context. Therefore, the present study's first research question remains unanswered.

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[19] An alternative method, and used by studies such as Simon (2002) and Laswad and Mak (1999/2000) is to empirically gather the interpretations of individuals who comprise the standard setting or regulatory bodies. The present study preferred reliance on authoritative pronouncements since, as is reported by Laswad and Mak (1999/2000), the interpretations of probability terms (such as 'probable') made by individuals on the standard setting body can appear 'inappropriate' and in marked contrast with the standard setter body's authoritative pronouncement on the meaning of the term. It is the authoritative pronouncement that auditors and others may rely on and be influenced by when making their own judgments and decisions.

[20] While all studies reviewed in this chapter examined the meaning of 'probable', it was never in the context of interpreting requirements in a legally mandated Australian accounting standard. Additionally, three studies examined its meaning outside any context with one of these not reporting results. Therefore, the relevance of these studies is minimal here. Finally, while two studies have examined the meaning of 'assured beyond any reasonable doubt' in a decision context, both studies omitted words from the phrase ('assured' in one study and 'any' in a second study) meaning subject responses are in relation to an uncertainty term that differs from the prescribed test of 'assured beyond any reasonable doubt.'

2.11.1 Development of Hypothesis $H_0$1

Pany and Reckers (1987) suggest within-subject designs may encourage responses affected by incentive factors that are not attended to in between-subject designs. This thesis also suggests within-subject design is a serious limitation of previous studies examining the meaning of 'virtually certain' and 'assured beyond any reasonable doubt' (terms used in AASB 1020). However, the perceived limitation is not known to have been tested. Therefore, the first hypothesis addresses this issue and is methodologically based. It questions whether an association exists between research design and the meaning of terms used in AASB 1020. In the null form, the hypothesis is:

$H_0$1 There is no significant difference between within-group and between-group auditor subject results concerning the meaning of 'virtually certain' and 'assured beyond any reasonable doubt'.

Auditors must determine whether a client has complied with legally mandated accounting standards. AASB 1020 and other pronouncements issued by both standard setters and the ASIC have been quite clear as to how they interpret and expect others to interpret the recognition criteria in AASB 1020. It is expected that within-group results will reflect sensitivity to these pronouncements and compliance with AASB 1020. That is, 'virtually certain' will be interpreted as conveying a significantly higher degree of probability than 'assured beyond any reasonable doubt'.

These incentives are unlikely to have an effect in the between-group design. Consequently, it is expected that the use of 'beyond any reasonable doubt' in the legal domain may influence auditors to assign very high probabilities to the meaning of 'assured beyond any reasonable doubt'. Additionally, the word 'assured' may convey extremely high degrees of certainty in its own right. Therefore, in the between-group design, 'assured beyond any reasonable doubt' is expected to convey similar or higher degrees of certainty than 'virtually certain'. That is, results in the between-group design will differ from those in the within-group design.

2.11.2 Development of Hypotheses $H_0$2 and $H_0$3

As discussed in Chapter One, commonality of background, experiences, interests, values and incentives are important factors in the sharing of meaning[21]. Due to their differing objectives, incentives and functions, it seems unlikely that such commonality exists between standard setters[22], regulators and auditors. Based on this premise, auditor interpretations are not expected to be consistent with either standard setters or regulators.

Contributing to this expectation is the absence of shared meaning between standard setters and regulators in some cases. As previously noted (in section 2.9 of this thesis), and with respect to 'expected', 'expected beyond any reasonable doubt', 'foreseeable' and 'probable', standard setters and the regulator (ASIC) do not share meaning. Therefore, it also seems unlikely that auditors could share meaning with standard setters and the regulator.

Perhaps one of the most compelling reasons for the above expectation is highlighted in the inconsistent pronouncements (or 'mixed signals') within the Australian external reporting environment. More specifically, mixed signals regarding the accounting principles of conservatism and reliability in the recognition of financial statement elements. Australian accountants and auditors through the 1970s-mid 1990s were taught (as undergraduates) and asked to adopt the principle of conservatism in their judgements and decisions. Textbooks discuss conservatism in the following way:

> 'When the amount of revenue or the value of an asset is not known precisely, the accounting method that gives the lowest figure should probably be preferred' (Henderson and Peirson, 1984: p.83).

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[21] As will be discussed in Chapter Three, studies such as Farmer, Rittenberg and Trompeter (1987), Roberts and Cargile (1994) and Hackenbrack and Nelson (1996) suggest incentives play a significant role in auditor judgement and decision making.

[22] The reference to the plural 'standard setters' is, in all cases in the present study, a reference to the Australian Accounting Research Foundation (AARF) and the Australian Accounting Standards Board (AASB). At the time the present study was conducted, these two bodies played the central role in Australian standard setting. The AARF were responsible for drafting all the recognition criteria contained in the standards examined in the present thesis and the AASB were responsible for legal approval of those standards.

> 'The future of any organisation is uncertain, and for this reason accountants prefer to adopt a conservative, even pessimistic, approach to preparing accounting reports...' (Martin, 1994: p560).

Conservatism was accepted as a fundamental accounting principle even to the extent that some text books defined 'prudence' (another accounting principle prescribed in '*AAS 6 Accounting Policies: Determination, Application and Disclosure* (AARF, 1986)) as meaning that '... accountants should choose a conservative option when faced with uncertainty' (Henderson and Peirson, 1984: p.83).

However, in early 1990's the AASB and AARF released '*Statement of Accounting Concepts 3: The Qualitative Characteristics of Financial Information'* (SAC 3) as part of the conceptual framework. Between August 1990 and July 1993 SAC 3 was legally mandated. Following July 1993 it lost legal status but remains a professional requirement. SAC 3 specifically removes conservatism and the notion of a deliberate bias from generally accepted accounting principles (clause 25). It replaces 'conservatism' with 'reliability'. SAC 3 defines reliable information as being free from any bias and faithfully representing the underlying transaction or event (AASB, 1990). With respect to auditors, SAC 3 makes the following statement:

> 'In part, the auditor is concerned with ensuring that general purpose reports represent what they purport to represent, that their contents are verifiable and that there is an absence of bias. ... the user will expect ... compliance of the reporting entity and that reliance may be placed on the auditor's opinion' (AASB, 1990: p29).

With respect to recognition of financial statement elements and reliability, SAC 3 states the following:

> 'An important concept in general purpose financial reporting is that of recognition. ... Recognition criteria have been developed to provide guidance ... Invariably these criteria involve the assessment of

probabilities and require the exercise of professional judgement. Implicit in those criteria is the concept of reliability' (AASB, 1990: p28-29).

Therefore, it can be concluded that through the early to mid 1990s, accountants and auditors were being required to replace 'conservatism' with 'reliability' in their approach to professional judgement and decisions. However, at the same time, existing and new accounting standards reflecting the doctrine of conservatism were being legally mandated. The following are three examples:

(a) AASB 1009 requires recognition of profits on construction contracts to be recognised only when progress on the contract permits the outcome to be reliably estimated. Losses, on the other hand, must be recognised as soon as they are foreseeable (AASB, 1986, 1997).

(b) AASB 1019 expressly prescribes the 'lower of cost and net realisable value' method in valuing inventory. Inventory is not permitted to be written up when resale value exceeds cost but must be written down where cost exceeds resale value (AASB, 1989, 1998).

(c) '*AASB 1010 Accounting for Revaluation of Non-Current Assets*' requires decrements on revaluation to be recognised as an expense yet increments must not be recognised as revenue and taken directly to a reserve (because of their unrealised nature) (AASB, 1996).

These mixed messages and conflicting requirements (regarding reliability and conservatism) do little to improve the communication between standard setters, the regulator and auditors. Importantly, it may create confusion, and reduce the likelihood of shared meaning about financial element recognition criteria. This confusion is certainly evident in undergraduate accounting theory, where, some years after SAC 3 was given legal status, accounting textbooks continued to discuss conservatism as though it remained a fundamental accounting principle and part of the accountant's approach to judgement and decision making (Martin, 1994).

The confusion described above is likely to be exacerbated by standard setters' use of different recognition criteria for different financial statement elements. As examined in the present study, there are six linguistically different recognition criteria for six different types of financial element. This difference appears inconsistent with standard setters' stated position on consistency between recognition criteria. For example, in SAC 4, standard setters state that no distinction should be made, and symmetry should exist, between the meanings of probability terms used in recognition criteria for each financial statement element (AASB, 1995a). There is clearly disparity between what standard setters do and what they say should be done.

There are other reasons for the absence of shared meaning expected in this thesis. Firstly, auditors are expected to interpret 'assured beyond any reasonable doubt' as conveying a similar or higher probability than 'virtually certain'. Reasons for this are discussed in section 2.11.1. Secondly, it seems unlikely auditors could share meaning with standard setters about the synonymity of 'foreseeable', 'probable', 'expected' and 'expected beyond any reasonable doubt'. 'Expected beyond any reasonable doubt' includes language conveying levels of certainty not present in the other terms. It includes the phrase 'beyond any reasonable doubt'. As previously discussed, this phrase is the test for innocence or guilt in Australian criminal law cases. Use of this phrase in the legal domain is expected to influence auditors to assign very high probabilities to the meaning of 'expected beyond any reasonable doubt'. Finally, this thesis examines the meaning of all terms in a decision context. As has been discussed, these terms are recognition tests for very different financial statement elements. The criteria apply to entities in certain industries (eg construction) and to entities in different financial positions (eg terms such as 'virtually certain' apply only to companies with tax losses). The disparate contexts of interpretation and application are expected to result in considerable difference in their meanings (since standard setters and the ASIC are unlikely to share these experiences).

Consistent with the expectations discussed above, the second and third hypotheses predict an absence of shared meaning both in quantitative terms (where standard setters

or the ASIC have quantified the meaning of a term) and in relative[23] terms. Hypothesis $H_0$2 deals with the quantitative meaning and has two parts. Part (a) compares auditors and standard setters and part (b) compares auditors and the ASIC. In the null form, the two hypotheses are:

$H_0$2a: There is no significant difference between the quantitative meaning held by auditors and standard setters with respect to the term 'probable' used in financial statement element recognition criteria.

$H_0$2b: There is no significant difference between the quantitative meaning held by auditors and the regulator with respect to the term 'virtually certain' used in financial statement element recognition criteria.

Hypotheses 2a and 2b examine the quantitative meaning of 'probable' and 'virtually certain' only. This is because they are the only terms that either the standard setters or the regulator have specifically quantified in authoritative pronouncements.

Hypothesis $H_0$3 also has two parts and deals with the relative meaning. Part (a) compares auditors with standard setters and (part b) compares auditors with the regulator (ASIC). In the null form, the two hypotheses are:

$H_0$3a: There is no significant difference between the relative meaning held by auditors and that held by standard setters with respect to the probability terms used in financial statement element recognition criteria.

$H_0$3b: There is no significant difference between the relative meaning held by auditors and that held by the regulator with respect to the probability terms used in financial statement element recognition criteria.

[23] 'Quantitative meaning' refers to an interpretation of meaning which incorporates a numerical probability eg 'Probable' means > 50%. 'Relative meaning' refers to an interpretation where the level of certainty or probability conveyed by one term is expressed in terms that are relative to the level of certainty or probability conveyed by another term. For example, with respect to the relative meanings of 'virtually certain' and 'assured beyond any reasonable doubt', ASIC believes the minimum probability attributed as equal to 'virtually certain' is higher than that connoted by 'assured beyond any reasonable doubt' (as discussed in section 2.9 of the thesis).

There are at least two apparent differences between hypothesis $H_0$2 and hypothesis $H_0$3. Firstly, hypothesis $H_0$2 addresses quantitative meaning whereas hypothesis $H_0$3 addresses the relative meaning. Secondly, only the meaning of two probability terms is covered in hypothesis $H_0$2 (for reasons discussed above) whereas hypothesis $H_0$3 addresses all six terms selected for examination in this study.

While there are some differences, there is also a consistent aspect to the testing of both hypotheses $H_0$2 and $H_0$3. Testing the hypotheses relies upon the analytically determined meaning of the terms for both standard setters and the regulator. In other words, while the meaning for auditors is empirically obtained (in a decision context) through this study, the meaning for regulators and standard setters was captured in earlier sections through analysis of authoritative accounting pronouncements. This approach was preferred because: (a) As was discussed previously (in section 2.11), empirically gathered interpretations of probability terms (such as 'probable') from individual members of a standard setting body can appear 'inappropriate' and in marked contrast with the standard setter's own authoritative pronouncement on the meaning of the term (Laswad and Mak (1999/2000)); (b) Neither standard setters nor the regulator are required to make actual judgements or decisions pertaining to recognition/non-recognition of financial statement elements in a 'real world' decision context setting; and (c) It is the pronouncements of regulators and standard setters that auditors rely upon to determine the intended meaning of recognition criteria in their own decisions regarding compliance or non-compliance with accounting standards. Hence the approach used in the present study is, in this respect, consistent with the external regulatory environment. Having said that, the absence of empirically obtained data concerning the meaning of recognition criteria for the regulator and standard setter might be seen, and is accepted as a possible limitation for the study.

Having developed hypotheses that examine the meaning of recognition criteria, the following chapter examines the decision process, related research and will then develop three further hypotheses that test the recognition decision process.

CHAPTER 3

RECOGNITION CRITERIA: THE JUDGEMENT AND DECISION PROCESS

3.0 Objectives and Structure of Chapter Three

This chapter continues the examination of selected recognition criteria by focussing on a second common characteristic[1], ie the recognition decision process. As with the meaning of probability terms in these criteria, it is important that parties in the reporting environment share an understanding about the process employed in the recognition of financial statement elements. Without mutual understanding, auditors may employ and/or regulators seek to enforce a recognition process unintended by standard setters.

In section 3.1, this chapter examines the judgement and decision process prescribed by standard setters. In so doing, it deals with the intended application of the selected recognition criteria. Section 3.2 considers and compares regulator's interpretations of the intended decision process with that of standard setters. Following this, section 3.3 reviews relevant empirical research on auditor judgement and decision processes and develops two research questions. Section 3.4 reviews the analytic and empirical evidence and develops the final three hypotheses to be tested in this thesis. Finally, section 3.5 summarises the chapter.

3.1 The Decision Process: Standard Setters Intentions & Interpretation

Prescribed in all the selected recognition criteria is a judgement and decision process that has two central elements:

(a) The decision outcome should be a function of, and dependent upon, a comparison between the results of two judgements concerning (i) the probability of benefit/loss realisation; and (ii) the probability connoted by the uncertainty term used as the test for recognition.

(b) The meaning of the uncertainty term (referred to in (ii) above) is assumed to remain constant across differing contexts.

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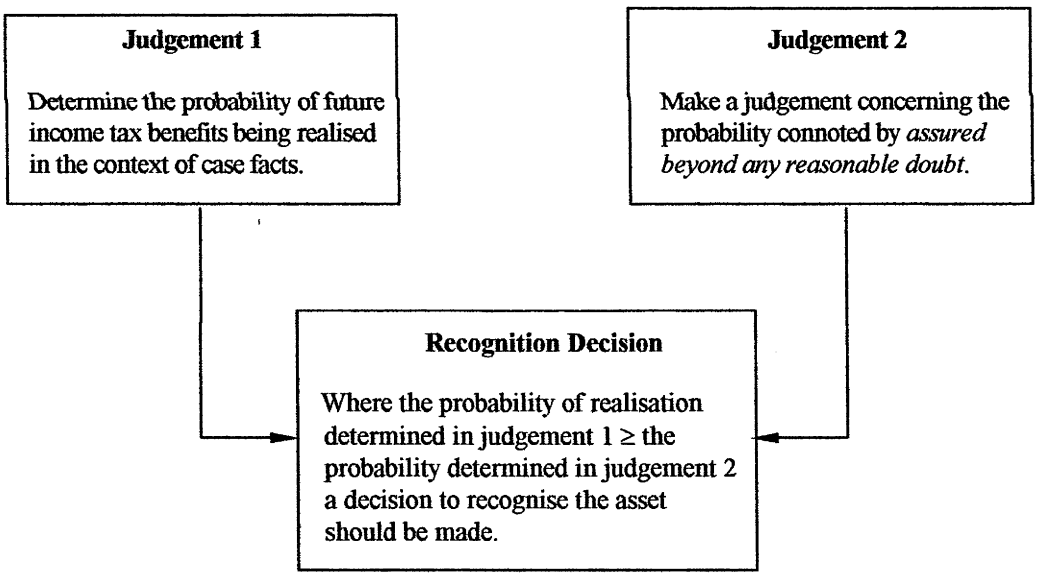
[1] As discussed in Chapters 1 and 2, the first common characteristic in recognition criteria is that they use probability terms as the recognition test or threshold to be met.

To place these two points in context, reconsider one of AASB 1020's future income tax benefit (FITB) recognition criteria:

> Where future income tax benefits are attributable to the tax effect of timing differences, the benefits should only be recognised in the financial statements where they are *assured beyond any reasonable doubt* (AASB, 1989b).

Figure 1 illustrates the prescribed FITB recognition process. The decision maker is required to make two judgements (not necessarily in the following order): (a) assess the likelihood that the FITB will be realised (called 'Judgement 1' here for reference purposes); and (b) determine the meaning conveyed by the uncertainty expression in the recognition criteria (called 'Judgement 2' here for reference purposes)[2]. The results of these two judgements should then be compared, with the recognition of the

Figure 1 : AASB 1020 FITB Recognition Decision Process



asset contingent upon the result in judgement 1 equalling/exceeding the result in judgement 2. Conversely, where the result in judgement 1 is less than the result in judgement 2, an FITB should not be recognised in the balance sheet. In short, the results in judgement 2 represent a test or threshold that must be met before recognition of the element is permitted.

[2] While referred to as Judgement 1 and Judgement 2 in this thesis, neither the standard nor other Australian accounting pronouncement prescribe an order in which these judgements are to be made.

The above discussion highlights the first of the two central elements in the recognition decision process. That is the decision outcome is dependent upon the results of two judgements concerning probability. The second element of the decision process that is common to recognition criteria is that the meaning of probability terms in recognition criteria is intended by standard setters to remain constant across different contexts. As discussed in the previous chapter, AASB 1020 employs two recognition criteria with the second being applicable only where a company is in a tax loss situation. In these circumstances, realisation of the FITB must be *virtually certain*. As discussed in Chapter Two, this criterion is intended by standard setters to be a more stringent test than the test of 'assured beyond any reasonable doubt'. That is, for standard setters 'virtually certain' consistently conveys a higher level of probability than 'assured beyond any reasonable doubt'. This use of the two criteria and the indication of relative meaning, indicates that, for standard setters, probability expressions convey a probability that is constant across all contexts.

Further evidence concerning the uniformity of interpretation across context exists when standard setters (a) quantify 'probable' as meaning something greater than 50% (Kerr, 1984: p.34); and (b) describe 'probable', in relative terms, as meaning something less than 'assured beyond any reasonable doubt' or 'virtually certain' (Keys, 1995: p.73). Implicit within such statements is the holding of a meaning that remains constant and is not context specific.

The recognition criteria selected for examination in this thesis prescribe the same decision process (albeit using different probability terms within the recognition criteria). That is, they prescribe a test or threshold (expressed as a probability term) to be met as part of the decision process. Additionally, authoritative pronouncements such as Section 3290 of the Canadian *CICA Handbook* and the US *Statement of Financial Accounting Standards No. 5: Accounting for Contingencies* (SFAS 5) prescribe a similar process. For example, SFAS 5 states that material contingent losses need not be disclosed where the probability of occurrence is *remote*, requires footnote disclosure where *reasonably possible* and requires accrual of the loss where it is *probable*.

Jiambalvo and Wilner state that a unique feature of SFAS 5 '... is its implied sequential decision-making process.' (1985; p.2). They describe the process as:

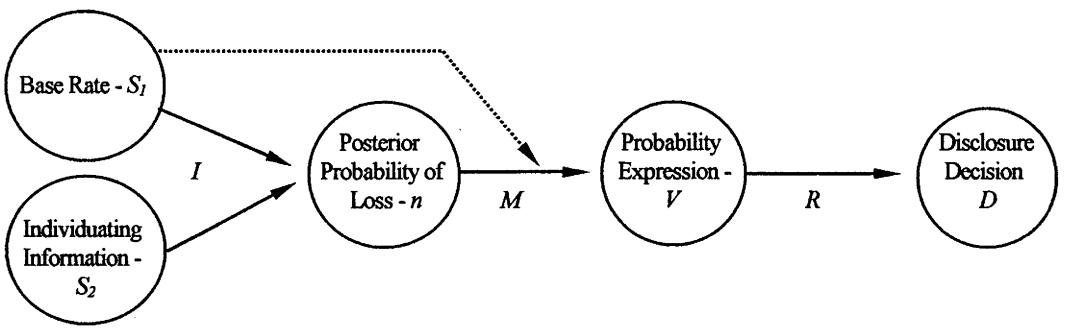
> 'Given an estimable material loss, the auditor must then assess the likelihood of the loss being realized and choose one of the disclosure options... Under SFAS 5 the choice of the disclosure option is governed by the likelihood assessment made by the auditor' (Jiambalvo and Wilner, 1985; p.2).

Therefore, consistent with previous discussion, Jiambalvo and Wilner also identify critical elements in the SFAS 5 decision process as being:

(a) A judgement concerning the probability of realisation must be made and then compared with the result of a second judgement about the meaning connoted by the probability expression in the disclosure/recognition criteria; and

(b) The comparison in (a) above results in alternative forms of disclosure with the decision outcome being solely dependent upon whether, the probability of realisation equals or exceeds the predetermined probability prescribed in the disclosure/recognition criteria (Jiambalvo and Wilner, 1985: p.2).

Figure 2: Amer et al's Model of the SFAS 5 Decision Process



Similarly, Amer, Hackenbrack and Nelson (1995: p.32) modelled the decision process in SFAS 5 (see Figure 2) to reflect that the criteria implicitly require practitioners to determine ' ... a posterior probability of loss n based on S_1 (base rate information in the

case)[3], S_2 (other information in the case), and some function I (that is, $n = I\{S_1, S_2\}$). The auditor then assigns a probability expression V to n based on some function M (that is, $V = M\{n\}$), and then explicitly selects a disclosure D based on V and some function R (that is $D = R\{V\}$)' Amer et al (1995: p.31). Amer et al's model, like Jiambalvo and Wilner's description, is consistent with this study's description of the recognition decision process. That is, the decision outcome is intended by standard setters to be dependent the meeting of a test, that is embodied in a probability term, and the decision maker must decide what that probability term means.

Amer et al (1995) also confirm that US standard setters are consistent with their Australian counterparts in expecting probability terms (in recognition criteria) to be interpreted uniformly across contexts (1995: p.30).

> 'A basic premise that motivates the hypothesis is that SFAS No. 5 probability expressions were intended to be interpreted uniformly across the various contexts to which SFAS No. 5 applies. To ensure that this premise is appropriate we attempted to survey all seven individuals who were members of FASB at the time SFAS No. 5 was issued.... These results are consistent with our interpretation of the decision rule in SFAS No. 5, and indicate that any context effect (on the meaning of the probability terms used in SFAS No. 5) revealed in this study is counter to the intentions of the FASB members who ratified the standard' (Amer et al, 1995:pp29-30).

Consequently, empirical research on auditor interpretations and applications of SFAS 5 has relevance for this thesis (and will be discussed further in later sections). Additionally, as discussed above, it reinforces the present study's analysis of Australian standard setters' intentions/interpretations concerning the recognition decision process.

[3] The principal objective in Amer et al's (1995) study was to determine whether changes in debtor default base rate affected auditor interpretations of SFAS 5 probability terms. Consequently, their model makes a distinction between base rate (S_1) and other contextual factors (S_2).

In summary then:

(a) Standard setters prescribe a decision process where the decision outcome is intended to be a function of a comparison between two judgements concerning the probability of benefit/loss realisation and the probability conveyed by the recognition criteria; and

(b) Standard setters interpret the meaning of recognition criteria as remaining constant (ie significantly unaffected) across differing contexts.

3.2 The Decision Process: Regulator's Interpretations

The Australian Securities and Investment Commission's (ASIC) understanding of the decision process is made evident by the following three ASIC statements:

> 'SAC 4 permits research and development expenditure to be deferred as an asset when benefits from this expenditure are probable. The asset recognition criteria is stricter under AASB 1011 where the test is beyond reasonable doubt' (ASIC, 1993a: p. 28)

> 'The ... test set out in SAC 4 recognising *probable* assets and revenue is not as prudent as that currently practised nor is it as strict as those set out in a number of approved accounting standards, for example, the beyond reasonable doubt and the virtual certainty tests set out in AASB 1020' (ASIC, 1993a: p. 26).

> ' ... for the test of virtually certain to be met there must be an extremely high level of probability (greater than 95%) that the future income tax benefit will be realised' (ASIC, 1993b: p. 2).

Clearly, the regulator views recognition criteria, such as those mentioned above, as a benchmark or test that must be met. That is, the probability of benefit/loss realisation must equal or exceed the 'test' (being the probability conveyed by the

recognition criteria) if recognition is to occur. The view is consistent with the decision process intended by standard setters (discussed in section 3.1). Further, in quantifying the meaning of 'virtually certain' (ie greater than 95%), and by contrasting probability expressions in terms of their relative rigour, the regulator (ASIC) clearly share standard setters' views about the uniformity of meaning across contexts. Therefore, standard setters and the regulator appear to share an understanding about the judgement and decision process prescribed in recognition criteria for financial statement elements.

3.3 The Decision Process: Relevant Research and Research Questions

In a broad sense, the research question that flows from the previous discussion is: do auditors share an understanding with regulators and standard setters about the recognition decision process? More specifically, do auditors actually use the prescribed decision process in their recognition judgements and decisions? The questions have a basis in decision maker's cognitive process and this process is not readily observable. However, behaviour, probability judgements and recognition decision outcomes are observable and can provide evidence about whether auditors appear to use the prescribed process in practice. Consequently, the research questions in this chapter reflect a focus on aspects of the decision process that are observable. That is: (a) for auditors, is the decision outcome a function of, and dependent upon, the recognition test; and (b) do auditor judgements concerning the meaning of the recognition test (the probability expressions embedded in recognition criteria) vary across different contexts?

Some previous research in the area has adopted a similar focus. However, it appears as though no reported study has successfully examined whether the recognition test is a determining factor in the decision outcome[4]. Further, only Houghton and Walawski (1992) specifically address the issue of uniformity/variation in contextual meaning in the Australian context.

[4] While some studies have examined the issue, the research design or elicitation techniques used in these studies promote alternative explanations for reported results. These studies are discussed in section 3.3.

Houghton and Walawski (1992) test, *inter alia*, whether auditors interpret the same expression consistently in different decision contexts. The study was discussed in some detail in chapter 2 and it is sufficient to mention here that no significant difference was found in the meaning of either 'assured beyond any reasonable doubt' or 'probable' across different contexts. However, the results reflect within-subject comparisons across different cases. Consequently, they may be confounded by a demand effect where subjects are cognisant of, and attend to standard setters/regulators interpretations concerning consistency of interpretation.

While there exists only the one reported study known to the present author that examines the effects of contextual manipulation on meaning in the Australian context, the selected recognition criteria and the criteria described in SFAS 5 share similar characteristics[5]. Therefore, research on the SFAS 5 judgement and decision process has relevance for this study and warrants further examination.

3.3.1 Schultz and Reckers (1981)

Schultz and Reckers (1981) investigate the judgements and decisions of sixty-four audit partners (from one Big Eight firm) with respect to SFAS 5 requirements for disclosure of contingent losses. One of the objectives is to determine whether materiality of a contingent loss affects auditor judgements concerning the probability a contingent loss should have before it is disclosed as a footnote in the accounts. Materiality of the loss is manipulated between two cases (approximately 6% of income in one case and 14% in the other). After reading each case, subjects were firstly asked to make individual judgements about the probability level at which footnote disclosure of a material contingent loss should occur[6]. Subjects were then given a second identical instrument, placed in groups of four, and asked to make the same judgements as a group with a proviso that there be group consensus. The discussions within the group were taped.

[5] As previously noted, they share the fact that (a) they prescribe a decision process whereby the decision outcome should be a function of ,and dependent upon, meeting/not meeting a prescribed and predetermined recognition threshold; and (b) the threshold's meaning should remain significantly unaffected by changes in the context of interpretation.

[6] SFAS 5 requires no disclosure of a contingent loss where the probability of occurrence is remote, footnote disclosure where it is reasonably possible and accrual where it is probable - see 2.8.1.

Finally, the subjects were given a third identical instrument and again asked to make the same judgements as individuals.

Of particular relevance for this thesis are the individual judgements between cases and the apparent decision process that emanates from the taped group discussions. With respect to the former, Schultz and Reckers report that individual judgements about the probability level at which footnote disclosure of a material contingent loss should occur are significantly and negatively affected by the materiality of the contingency. That is, the decision context was relevant and as materiality of the contingent loss increased, the probability level at which footnote disclosure should occur decreased.

It is important to note exactly what was measured in Schultz and Reckers' study. That is, the effects of materiality on the probability level at which footnote disclosure should occur. They did not measure the effects of probability on the connotative meaning of 'reasonably possible'. It is an important distinction because the former measures the effects of materiality on the disclosure outcome. The latter measures the effects on the connotative meaning of the probability phrase and, in turn, this may or may not then result in changes to the decision outcome depending upon the process used by the decision maker.

Schultz and Reckers state '... a significant number of subjects appeared to use some variant of an expected value decision model in which a combination of the materiality of the contingency and the necessary probability of its occurring was the driving force behind their decisions' (1981: p. 492). This statement suggests that the connotative meaning of 'reasonably possible' was not necessarily relevant or influential in the decision process. That is, the decision process may be one where the outcome is not dependent upon the contextual meaning of 'reasonably possible'. Rather, subjects decide that where the item is highly material, it is more prudent to disclose by footnote irrespective of SFAS 5 requirements. As noted by Schultz and Reckers, the taped conversations indicated that '... the vast majority of subjects were trying to put themselves in the role of users of the financial statements. One subject explicitly stated that **he did not really care what the FASB said** (emphasis added) - the implication being that he was concerned with the fairness of the disclosure' (1981: p. 492).

Given the above reported statements, and in light of what was actually measured in Schultz and Reckers' study, the questions of whether contextual variations in materiality lead to changes in the meaning of 'reasonably possible', is not resolved. Having said that, their study is extremely important in promoting further research and considerations about whether auditors use the prescribed criteria in their decision process.

3.3.2 Jiambalvo and Wilner (1985)

As discussed above, a decision process that differs from the prescribed process represents one possible explanation for the results in Schultz and Reckers study. Jiambalvo and Wilner (1985) sought, *inter alia*, to test this. Their study used 80 auditors from Big Eight firms in Pittsburgh and Seattle. A partner in each participating firm was provided with a number of research instruments and asked to distribute them to auditors of senior, manager or partner level[7]. The instrument required each subject to complete two tasks. The first of these is to indicate (on a probability line of 0 - 100%) the point at which a contingent claim ceases to be remote and becomes reasonably possible, and the point at which it ceases to be reasonably possible and becomes probable. This task was performed outside the context of a case.

The second task requires subjects to assess four different cases as if they were, in each case, the company's auditor. They are then to indicate which of the three methods (under SFAS 5) they would use to disclose a material, and reliably estimated contingent loss. Embedded within the cases was a brief statement from legal counsel indicating one of four probability estimates (10%, 30%, 70% or 90%) of an adverse outcome concerning the contingency. Jiambalvo and Wilner reasoned that where the disclosure method chosen (in the second task) is inconsistent with the meaning assigned to the cut off points (in the first task) it indicated a decision process that is inconsistent with the process prescribed in SFAS 5. Jiambalvo and Wilner report that, in all but one of the cases (referred to as 'case one'), subjects recommended disclosure requirements that are consistent with their own cut-off point probability estimates. That is, decisions appear consistent with use of the prescribed decision process in all cases except case one.

[7] Consequently, the selection of subjects was not random. Further, subjects within firms had the opportunity to discuss their responses prior to the completion of the instrument.

Attempting to explain the result in case one proved somewhat difficult for Jiambalvo and Wilner. The size of the potential damages in this case was similar to two of the other cases subjects had assessed and did not appear to be an explanatory variable. The instrument had also asked subjects to rate the cases in terms of materiality on a five point scale (1 = Not Material - 5 = Extremely Material). The average rating for case one was lower than the average ratings for the other three cases (and significantly lower, at the .05 level than two of the other cases). Consequently, it did not appear as if subjects behaved in a conservative manner. This is contrary to conclusions in Schultz and Reckers' study.

However, one possible explanation for the result concerns the fact that probability estimates for disclosure cut-off points (made in task one) were elicited outside any case context. Consequently, the meaning held by subjects prior to assessing each case may have altered in the case decision context and, therefore, decisions in all cases could be entirely consistent with the use of the cut-off points as prescribed in SFAS 5.

3.3.3 Harrison and Tomassini (1989), Raghunandan, Grimlund and Schepanski (1991) and Amer, Hackenbrack and Nelson (1995)

With the questions of whether (a) changes in contextual factors alter the connotative meaning of probability terms and (b) do auditors use the prescribed decision process; remaining unresolved, other researchers continued to examine both areas. Harrison and Tomassini (1989) examine (a) (above) with the research question being whether the connotative meaning of the probability expressions in SFAS 5 is significantly altered by the nature of a contingent loss (litigation, threat of expropriation of foreign assets and product warranty obligations). They report that the type of contingency did not create significant differences in the connotative meaning of SFAS 5 probability terms. However, their study did not employ any case material and therefore, responses were elicited outside any factual or hypothetical case context. Additionally, the study uses a within-subject design. The significance of this latter point has been discussed previously.

Raghunandan, Grimlund and Schepanski (1991) examine whether auditors use the decision process implied in SFAS No. 5 (referred to as 'sequential' by Jiambalvo and

Wilner and referred to as 'non-compensatory' by Raghunandan et al). Using partners from Big Six accounting firms, the study uses a one factor, repeated measures design with an instrument adapted from Jiambalvo and Wilner (1985). Four experimental cases were presented to subjects with materiality of the contingency manipulated across the four cases. Subjects were asked to mark, on a probability line, the point at which footnote disclosure should occur under SFAS 5. Raghunandan et al report that, as materiality of the contingency increased, the point at which subjects disclose by footnote decreases. Using a pair wise t-test, the decrease between successive cases and the overall decrease is reported as highly significant ($p < .001$, two tailed).

Raghunandan et al conclude that subjects use a non-sequential decision process. That is, a process that is inconsistent SFAS No. 5 requirements. However, as with the Schultz and Reckers study, it is important to note exactly what is measured in their study. That is, Raghunandan et al measure the effects of materiality on the decision outcome (ie probability point at which footnote disclosure should occur). Therefore, it is possible that, as materiality increases, the connotative meaning of 'reasonably possible' decreases and, as required under SFAS 5, the decision to disclose by footnote reflects this change in the meaning of 'reasonably possible'. This, of itself, is not inconsistent with the 'sequential' decision process. Rather, it is inconsistent with the requirement that the meaning of the term remain constant across differing contexts. Consequently, there is a plausible and alternative explanation for the results in Raghunandan et al's study.

Amer, Hackenbrack and Nelson (1995) concur with this view and, in reference to Raghunandan et al's results, state '... the effect of materiality could have occurred when subjects determined the subjective probability of a loss or interpreted the probability expression ... or when the subjects determined whether the risk of loss merited disclosure ...' (Amer, Hackenbrack and Nelson, 1995: p.28). To test these alternative explanations, Amer et al perform an experiment designed to test (between-subject) whether auditor interpretations of the probability expressions used in SFAS 5 are influenced by one contextual feature, ie event base rate.

The instruments were mailed to the managing partners in 40 offices of one public accounting firm and then distributed to 200 audit managers with 133 returning the completed instrument. Each instrument contained one of two different scenarios about an audit client and the client's customers. One scenario describes a healthy industry that suggests a low base rate of default. The second scenario describes an unhealthy industry suggesting a high base rate of default. After reading the case, subjects were required to provide a numerical interpretation (between 0 - 100%) of 12 probability expressions (including the only three reported in the study from SFAS 5) and to state the upper and lower bounds of an interval in which they believed 90% of their peers' interpretations would fall. The order in which the probability expressions were presented was randomised between auditors to control for order effects.

Amer et al's null hypothesis was that auditor interpretations of SFAS 5 probability expressions are not influenced by contextual differences in event base rate. As can be seen from Table 1, their hypothesis was rejected with respect to interpretations of 'probable'

Table 1: Interpretations of SFAS 5 Probability Expressions from Amer et al (1995: p. 34)

Expression	Interpretation*		Results of Planned Comparison Φ
	Low Base Rate (n = 60)	High Base Rate (n = 73)	
Remote	21.2 (30.4)	21.0 (29.1)	NS
Reasonably Possible	55.6 (15.6)	55.0 (16.5)	NS
Probable	68.2 (22.5)	74.9 (16.7)	.025

* Mean numerical interpretation (standard deviation)

Φ One sided p - value for a t-test of interpretation between the two base rate conditions. 'NS' means not significant.

but not for the expressions 'remote' or 'reasonable possible'. The authors conclude that, contrary to the intentions of standard setters, interpretations of 'probable' are positively associated with event base rate but the expressions that convey a lower probability are not. The implication from their study is that some probability expressions may be vulnerable to contextual changes while others remain significantly impervious. However, it must be remembered that the study was unsupervised, uses subjects that are not randomly selected and from within one firm and, as noted by Amer et al, the single contingent loss context may limit the generality of results.

3.3.4 Hackenbrack and Nelson (1996)

A study by Hackenbrack and Nelson (1996) has some relevance for this thesis for two reasons. Firstly, it examines the effects of audit engagement risk[8] on an element of financial element recognition decisions that is somewhat related, ie the reliability of dollar value estimation[9]. Secondly, and perhaps more importantly, the conclusions drawn by Hackenbrack and Nelson have important implications for the contextual variables manipulated in this study.

Hackenbrack and Nelson's study is motivated by regulators questioning the effectiveness of auditors in fulfilling their obligations to ensure neutral financial reporting. As examples, the paper cites (a) the Public Oversight Board's (POB) charge that auditors permit clients to adopt aggressive reporting methods when auditors had incentives to do so (POB, 1994); and (b) the General Accounting Office's (GAO) charge that auditors justify aggressive reporting methods by aggressively applying vague disclosure criteria such as the probability terminology in SFAS 5 GAO (1991). Together, the two charges drove the study which has, as its objective, the resolution of questions concerning (a) whether auditors allow low engagement risk clients to adopt aggressive reporting practices; and (b) whether this behaviour is justified by aggressive interpretations of vague disclosure/recognition criteria.

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[8] The term 'engagement risk' refers to the auditor's assessment that the audit could result in fines, censure, litigation, loss of reputation, etc (Hackenbrack and Nelson, 1996: p. 44).

[9] Recognition criteria such as those used in SAC 4 and SFAS 5 possess two arms, ie assuming the item is material, recognition takes place when the amount is (a) capable of being reliably measured; and (b) probable of being realised. This first arm is not explicitly stated in any of the criteria examined in this thesis but, intuitively, it could be seen as implicit.

The instrument was administered (at a training course for supervising seniors) to 90 auditors from the same Big Six firm with an average of 3.28 years public accounting experience (standard deviation .60). Their experiment employs a 2 x 2 between-subjects design. One of the variables manipulated is engagement risk and the second manipulation involves the appropriate accounting standard[10]. Each subject was provided a case (wherein engagement risk was manipulated) in which the client was described, the accounting issue discussed and descriptions of the applicable accounting standards/authoritative literature provided. Next, two reporting methods were described along with the required disclosure and journal entries attributable to each of the reporting methods. Subjects were then told the disclosure option chosen by the client and in all cases the client had opted for the choice that allowed it to avoid violating restrictive covenants, ie client preference was the aggressive reporting method and remained constant across all cases.

In all cases the accounting issue concerned whether uncollectable trade receivables could be 'reasonably estimated'. Under SFAS 5, concluding that the amount can/cannot be reasonably estimated would result in accrual for doubtful debts/no accrual with footnote disclosure. The latter disclosure option represents the more aggressive reporting method. Under SFAS 77, concluding that the client's uncollectable receivables can/cannot be reasonably estimated would result in recording the transfer of receivables as a sale/loan with the former disclosure option representing the more aggressive reporting option[11].

Following a description of the audit evidence, the subjects were asked to indicate which of the disclosure options they would choose. All subjects were also asked to rate, on an eleven point scale, the degree to which they could reasonably estimate receivables that would eventually prove uncollectable (-5 = clearly not estimable to 5 = clearly estimable)[12]. The first task facilitated testing, between-subject, the first hypothesis, ie

[10] SFAS 5 and SFAS 77 both prescribe differing disclosure treatments of receivables where the amount can/cannot be 'reliably estimated'.

[11] 89% of the respondents in the SFAS No. 5 condition and 80% of respondents in the SFAS No.77 condition concurred with Hackenbrack and Nelson's opinion concerning which of the disclosure options was the more conservative/aggressive ($\chi^2(1) = 41.3$, $p = .000$).

[12] To reduce the potential for demand effects, one page (six questions) separated the pages on which the 'disclosure choice' and 'ability to reasonably estimate' responses were elicited.

the likelihood that an auditor will permit an aggressive reporting position increases as engagement risk decreases. The second task facilitated testing the second hypothesis, ie auditors apply vague disclosure criteria in financial accounting standards in a manner that justifies their reporting decision. In other words, Hackenbrack and Nelson predicted that the adoption of an aggressive or conservative reporting position would be justified by an aggressive or conservative interpretation of whether the amount was 'reasonably estimable'.

Hackenbrack and Nelson report that, with respect to the first hypothesis and under both accounting standards, auditors are more likely to select an aggressive reporting method where engagement risk is moderate and more likely to select a conservative reporting position where engagement risk is high ($p < .007$ and $p < .001$ in SFAS 5 and SFAS 77 conditions respectively). They conclude that the vague language used in accounting standards, ie 'reasonably estimable', allow auditors to make and justify incentive compatible reporting positions.

As will be discussed in the following section, Hackenbrack and Nelson's study provides an indication as to the predicted findings under one of the hypotheses in this thesis. However, some caution needs to be exercised with respect to their results because, with an average of 3.28 years of experience (standard deviation .60) it is arguable as to whether the subjects included in the sample represent 'experienced auditors'. To highlight this point, assuming a normal distribution, the sample included auditors with 2.08 years of experience[13]. It seems doubtful whether such auditors have sufficient experience with the accounting policy choices being tested or to fully grasp the implications of engagement risk.

This latter point is important because, as suggested by Frederick and Libby (1986), Bonner (1990) and Buchman, Tetlock and Reed (1996) 'experience' is reflected through having been involved in these types of decisions and through being aware of the issues and implications of the decision. Buchman et al (1996) used this criteria in their study and, *inter alia*, found the decision making of inexperienced auditors is not affected by

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[13] Assuming a normal distribution then $\mu \pm 2\sigma$ includes 95.5% of all the subjects (Hamburg, 1974: p.66 and Clegg, 1991: p.34) and: 3.28 - 2(.6) = 2.08 years.

accountability whereas accountability does have a significant effect on the decision making of experienced auditors (Buchman et al, 1996: p.10). Buchman et al '...speculate that this is because experienced auditors are more aware of the implications of the alternatives and the issues involved (Buchman et al, 1996: p.11). Therefore, it is speculative, but given subjects' level of experience in Hackenbrack and Nelson's (1996) study, the way remains open for studies of a similar nature using more experienced subjects.

3.4 Development of Hypotheses $H_0$4, $H_0$5 and $H_0$6

In this section, the final three final hypotheses to be tested are developed. The first of these, hypothesis $H_0$4, is to test whether auditors use a recognition decision process that is consistent with the prescribed decision process. In particular, it examines whether the decision outcome appears consistent with using judgements 1 and 2 (as previously discussed) in the manner prescribed by standard setters. If not, judgement 2 (the probability conveyed by the recognition criteria) will not be seen by auditors as the test or threshold that determines their decision outcome.

Hypotheses $H_0$5 examines the second element of the prescribed decision process previously discussed. That is, whether the probability (meaning) conveyed by recognition criteria varies with contextual manipulation. Finally, $H_0$6 will test the effects of manipulating a single contextual variable on the propensity of auditors to use judgement 2 as a test or threshold that determines their decision outcome.

3.4.1 Development of Hypothesis $H_0$4

Research that examines the recognition decision process used by auditors tends to concentrate on those elements of the process that are readily observable. That is, it examines whether (a) auditor decision outcomes are consistent with using the prescribed recognition criteria as the test for recognition; or (b) tests whether the connotative meaning of probability terms, as held by auditors, is altered by contextual manipulations of factors such as materiality and base rate default of debtors.

In reference to the first of these questions, there appears to be no reported research known to the present author that unambiguously tests whether auditors use the prescribed criteria as the test or threshold for their recognition decisions. Those studies that endeavour to do so report conflicting results and suffer from one or more factors such as within-subject design, questionable elicitation techniques and an absence of factual or case decision context. However, qualitative information reported by Schultz and Reckers (1981) suggests that, in certain circumstances, auditors will disregard/or are not entirely cognisant of the requirement to use a prescribed process. Further, Hackenbrack and Nelson's (1996) study suggests that incentives play a significant role in auditor behaviour. While the latter study may have been affected by the inexperience of subjects, the theory is intuitively appealing and consistent with results of other studies (for example, Farmer, Rittenberg and Trompeter (1987) and Roberts and Cargile (1994)). It seems reasonable to expect that, in some circumstances, auditor preferences and/or incentives will lead them to make decisions that are not consistent with the process prescribed by standard setters.

The above expectation is reinforced by the idea that in some circumstances, the behaviour/decisions of auditors may be affected by their adoption of the principle of conservatism (discussed in Chapter 2). For example, auditors may adopt a more conservative stance to recognition of some elements than is prescribed (as suggested by subjects in Schultz and Reckers (1981) and discussed in section 3.3 of this thesis). As discussed in Chapter 2 (section 2.11), the principle of conservatism is still very much a part of the professional judgement platform and is also evident in a number of inconsistencies that exist within Australian accounting standards. As noted by Martin (1994), 'conservatism' entails a bias and has inspired the following modifications: 'Expenditures that will benefit future periods ... are often expensed as incurred ... even when the likelihood exists that this expenditure will prove fruitful ... Expenses and their associated provisions may be overestimated deliberately' (1994: p. 561). If the above expectation holds true, auditors in the present study may choose to recognise losses on construction contracts despite the probability of realisation failing to meet prescribed recognition criteria. Additionally, auditors in the present study may not recognise assets such as inventory, despite the probability of realisation meeting the recognition criteria of 'probable'. As was noted in Chapter 1, the ASIC and accounting practitioners

criticised the use of 'probable' in SAC 4 recognition criteria because, *inter alia*, the test is seen as too low.

It could be argued that, while conservatism, industry practices and/or incentives affect auditor judgement and decisions, it will not necessarily result in failure to use the prescribed criteria as the test for recognition/non-recognition. Rather, because recognition criteria are subjective, variance in auditor interpretations of the recognition criteria will accommodate any particular predisposition in the decision process. However, this presumes auditors fully understand and use the prescribed process. As noted by Schultz and Reckers (1981), auditors in their study appear to use something other than the prescribed process. Secondly, as discussed earlier in the chapter, failure to interpret recognition criteria in a uniform manner is also inconsistent with the prescribed process and, in the absence of accountability[14] for their judgements and decisions, there seems little reason to expect auditors to exhibit one form of non-compliance yet not expect another.

In summary then, it is expected that in some instances, auditors may not use the prescribed recognition criteria in the manner intended. Reasons for the expectation are described above. They may recognise elements such as losses on construction contracts despite recognition criteria not being met. Alternatively, they may not recognise the losses where recognition criteria are satisfied. Auditors may recognise assets (such as FITBs) despite recognition criteria not being met or may not recognise assets such as inventory even though the criteria for recognition (embedded in 'probable') is met. If this occurs, auditors are not using a decision process where the outcome (ie the decision to recognise or not recognise) is dependent upon the recognition test being met. In the null form, the present study hypothesises that:

$H_0 4$ There is no significant difference between the decision outcomes that would occur under the process prescribed by standard setters versus the decision outcomes made by auditors in a recognition decision context.

[14] The issue of accountability is an important one and is discussed in section 3.4.2.

If, for example, auditors decide to recognise assets or expenses when their assessments about the probability of realisation (judgement 1) do not meet their own interpretations of the recognition test (judgement 2), it indicates non-compliance with the prescribed decision process. Additionally, non-compliance with the prescribed process occurs where auditors fail to recognise financial statement elements even though, in their own assessment, the recognition test is met.

3.4.2 Development of Hypothesis $H_0$5

A second element of the decision process concerns contextual variance/uniformity in the connotative meaning of probability expressions. Only one reported Australian study known to the present author has examined the issue (Walawski and Houghton, 1992). They found no significant differences in the meaning of 'assured beyond any reasonable doubt' or 'probable' across different case decision contexts. However, the question of contextual meanings was secondary to the main objective in that study and consequently, across context comparisons were within-subject.

Other studies that examine the effects of context on different terms have used US auditors and focus on US accounting pronouncements. These studies report conflicting results and are, in the main, confounded by alternative explanatory factors. However, Amer, Hackenbrack and Nelson, 1995 found that event base rates can alter the interpretation of the term 'probable'. Hackenbrack and Nelson (1996) also report an association between engagement risk and auditor interpretations of subjective terms. Further, psychology literature and communication theory (Guiraud, 1976; Bruno, 1980 and Fiske, 1982) strongly suggest that contextual factors can alter connotative meaning. Consequently, it seems unlikely that results in the accounting domain should differ. It is expected that the meaning of probability expressions embedded in recognition criteria will change across differing contexts.

Testing this fifth hypothesis will rely on a manipulation (between-subject and in a case decision context) of one contextual factor: ie the regulator's monitoring presence. As discussed in Chapter Two, under sections 13 and 14 of the Australian Securities and Investments Commission Law, the regulator (ASIC) is responsible for enforcement of legally mandated Australian accounting standards. Enforcement entails two areas.

First, there is a system of monitoring compliance with accounting standards. Second, sanctions must be imposed against companies, their financial officers and their auditors where there is a failure to comply with accounting standards. The monitoring aspect of the regulatory process has been problematic in Australia. Walker (1994) notes that Australian regulatory bodies made little attempt to address non-compliance[15] and committed minimal resources to effective monitoring.

In response to this criticism, several initiatives were introduced by the regulator to encourage compliance with accounting standards. In 1991 it established the Financial Reporting Surveillance Programme (FRSP) to ensure publicly listed companies provide accurate and relevant information in accordance with accounting standards and the Corporations Law. ASIC introduced a confidential Auditors and Liquidators Watch List to identify auditors and liquidators who fail to meet their reporting requirements (ASIC, 1993d). In 1994, ASIC established the Auditor Surveillance Programme '... to conduct, to a limited extent, spot checks on audit working papers, on a random basis or where questionable practices have been brought to their attention' (Kestel, Hancock and Robinson, 1996: p295).

It is clear that the Australian regulator's monitoring presence increased somewhat during the early-mid 1990's. However, even after the 'increase', relatively few companies are targeted in their surveillance programmes. For example, in 1995, there were approximately 40,000 companies required to prepare audited financial statements (19,223 private companies and 21,000 public companies). Of these 40,000 companies, 303 were surveyed under the ASIC's FRSP[16]. This is primarily due to limited resources being available to the ASIC (Kestel et al, 1996: p310).

The above is not intended to be critical of the regulator – limited resources are constraining. Rather, in light of the above, the level of accountability faced by auditors to regulators appears extremely low. Therefore, the regulatory monitoring presence during the same period is unlikely to be a powerful incentive for auditors to ensure clients comply with accounting standards. However, where an audit client is required to

[15] From a survey conducted by the New South Wales Corporate Affairs Commission in 1976, Ryan (1981) reports that 80% of companies did not fully comply with accounting standards.

explain their financial statements by the regulator, then for the client's auditor, the likelihood of accountability, future scrutiny (under the Auditor Surveillance Programme) and probability of sanctions increases markedly. These facts provide an externally valid contextual variable that is important to understand. However, as noted by Hackenbrack and Nelson (1996: p.48) prior research has not examined the effects of regulatory monitoring on auditors' interpretations of probability terminology within accounting standards. Rather, it has focussed on non-strategic matters. Therefore, understanding the effects of regulatory monitoring is also important for accounting theory and future accounting policy.

The expectation in this study is that, as the likelihood of regulatory monitoring increases, so too does the likelihood of auditor accountability. In these circumstances, auditor judgements are more likely to be conservative. That is, their interpretations of the minimum numerical equivalent attributed to a probability term will decrease. By doing so, it provides more flexibility to justify decisions and ensures their own exposure to criticism or litigation is reduced. Therefore, the null hypothesis is:

$H_0$5: For auditors, no significant difference in the quantitative meaning of probability terms used in financial element recognition will be associated with an increase in regulatory monitoring presence.

3.4.3 Development of Hypothesis $H_0$6

As discussed in section 3.4.2, in the absence of conspicuous monitoring, auditors are expected, in some cases, to use a decision process that is inconsistent with the prescribed process. However, as the likelihood of monitoring (and therefore potential accountability) increases, it seems reasonable to expect auditors to make recognition decisions that are consistent with use of the prescribed decision process (assuming that, in the absence of regulatory monitoring, there are instances where they do not).

To test this expectation, the present study will again use a manipulation (between-subject and within a case decision context) of the regulator's monitoring presence.

[16] Numbers in previous years are similar: (463 companies in 1994; 546 in 1993; and 478 in 1992: Kestel et al, 1996: p296)

Where the regulator's presence is higher, a less aggressive (or more conservative) decision process is expected because it complies with accounting standards and is consistent with the regulator's interpretations. Therefore, in the null form, the final hypothesis to be tested in this thesis is:

$H_0$6 No significant difference in auditors' recognition decision process will be associated with an increase in regulatory monitoring presence.

3.5 Summary

As established in earlier chapters, the theory of communication attaches central importance to the sharing of meaning between participants in the communication process. Accounting standards play an important role in communication between participants in the external financial reporting environment. Consequently, in order for communication between these participants to be effective, it is important that they share a mutual understanding about the meaning of provisions within accounting standards.

The research questions in this chapter have addressed this issue by focussing on whether auditors share a mutual understanding with standard setters and regulators about the judgement and decision process, prescribed in accounting standards, for the recognition of financial statement elements. Without mutual understanding, auditors may employ and/or regulators seek to enforce a recognition process never intended by standard setters[17].

The decision process prescribed in Australian recognition criteria contains at least two central elements. The first of these requires a comparison between the results of two judgements concerning the probability of benefit/loss realisation and the probability prescribed in the recognition criteria (called 'judgements 1 and 2' respectively in figure 1). The decision outcome should be entirely dependent upon the relative probabilities associated with judgements 1 and 2. Where the probability in judgement 1 is less than

[17] The present author makes no assumption or judgement about whether standard setters prescribe the correct requirements. Rather, the present author simply recognises that standard setters are charged with prescribing the requirements, auditors are charged with forming opinion about compliance with these requirements and regulators are charged with monitoring and ensuring compliance with the requirements.

the probability in judgement 2, the relevant financial element(s) should not be recognised in financial statements. Where the probability in judgement 1 equals or exceeds the probability in judgement 2, the relevant financial element(s) should be recognised. In other words, the decision outcome is directly consequential on this determination.

The second element of the decision process concerns variability in the meaning of recognition criteria (and the probability term therein ie judgement 2) across differing contexts. As established in earlier discussion and, with respect to judgement 2, standard setters intend that the connotative meaning should be unaffected by the context of interpretation.

As discussed in section 3.2, regulators share an understanding with standard setters about both the aforementioned aspects of the decision process. The regulator views the recognition criteria as prescribing the decision outcome to be a function of, and dependent upon, the comparison between judgements 1 and 2. Further, by quantifying the meaning of 'virtually certain', and by defining uncertainty expressions in terms of their relative probabilities, the regulator has indicated it interprets these expressions as being impervious to significant contextual variations.

This chapter develops three hypotheses (additional to the three hypotheses developed in Chapter 2). The first of these, hypothesis $H_0$4, will test whether auditors use a recognition decision process that is consistent with the prescribed decision process. In particular, it examines whether the decision outcome appears consistent with using judgements 1 and 2 (as previously discussed) in the manner prescribed by standard setters. The expectation is that, for reasons discussed previously, there will be instances where judgement 2 (the probability conveyed by the recognition criteria) will not be used by auditors as the test or threshold that determines their decision outcome.

Hypotheses $H_0$5 examines whether the probability (meaning) conveyed by recognition criteria vary with a contextual manipulation of regulatory monitoring levels. It is expected that as the likelihood of regulatory monitoring increases, the probability conveyed by recognition terminology will, for auditors, decrease. In doing so, it

provides the auditor with more flexibility to justify decisions and decreases exposure to criticism or potential litigation. Finally, $H_0 6$ will also test the effects of manipulating regulatory monitoring levels. The expectation in this study is that there will be a positive association between the regulatory monitoring presence and the level of compliance with the prescribed decision process. Put another way, the higher the perceived level of regulatory monitoring, the higher will be the number of auditors perceived as using judgement 2 as the test or threshold that determines their decision outcome. With the development of six hypotheses completed, the following chapter will present the research methodology used to test each of the hypotheses.

CHAPTER 4

RESEARCH METHODOLOGY

4.0 Objectives and Structure of Chapter Four

Chapters Two and Three developed and presented the six hypotheses to be tested in this thesis. Chapter Four follows on by outlining the methodology used to test each of the six hypotheses and execute the study. The chapter has five major sections. Section 4.1 follows the order of the hypotheses and discusses the research design used to test each of them. Where necessary, the discussion also addresses the research instrument and tasks that subjects are asked to complete. However, it is in section 4.2 that the research instrument(s), along with tasks and elicitation technique, are discussed in detail. Section 4.3 then deals with the selection of auditor subjects. Section 4.4 discusses administration of the research instruments and collection of data and finally, section 4.5 concludes the chapter.

4.1 Research Design - Hypothesis $H_0 1$

Chapter Two of this thesis examines prior research into how probability terms are interpreted by Australian auditors and accountants. Few studies exist and almost all may potentially be affected by the use of a within-subject design. That is, results in these studies are possibly contaminated by subjects' attention to compliance with regulatory requirements or with regulator's/standard setter's views concerning the meaning of accounting terminology. Harsha and Knapp (1990) discuss the increased likelihood of this happening in within-subject designs generally. However, as noted, the effects of within-subject designs on probability judgements are not previously reported as having been tested.

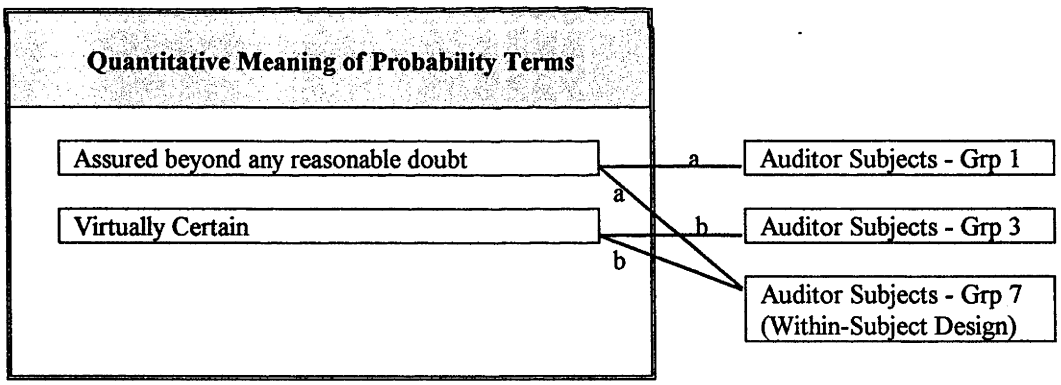
Consistent with the above, the first hypothesis tests for an association between experimental design (ie within-subject as opposed to between-subject) as the independent variable and auditor interpretations of two probability terms as the dependent variable. The hypothesis is stated in the null form as:

$H_0$1 There is no significant difference between within-group and between-group auditor subject results concerning the meaning of 'virtually certain' and 'assured beyond any reasonable doubt'.

Figure 1 presents the research design related to this hypothesis. Lines (a) and (b) illustrate the comparisons to be made. The comparisons involve the quantitative interpretations of two probability terms from auditors in a within-subject design (in group seven[1]) being compared with the quantitative interpretations from auditors in a between-subject design (groups one and three).

Put another way, the type of subject (auditors) is held constant, as are the two probability expressions ('assured beyond any reasonable doubt' and 'virtually certain'), while the research design (within-subject and between-subject) is manipulated to isolate out the possible association between research design and the quantitative calibrations of two probability expressions.

Figure 1: Research Design - Hypothesis $H_0$1



Subjects in all three groups (1, 3 and 7) are asked to assign a minimum quantitative equivalent to the respective probability term(s), outside a case decision context. It should be noted that subjects in group seven are asked to indicate the meaning of all six probability terms examined in this thesis and not just the two selected for testing $H_0$1. This is because the studies criticised for using within-subject designs (in research on 'assured beyond any reasonable doubt' and 'virtually certain') have also examined the meaning of additional probability terms (eg Patel, 1991 and McCarthy

[1] The present study incorporates the use of nine treatment groups. Each group is arbitrarily assigned a number (1-9) for the purposes of identification and reference.

and Mirza, 1994). Consequently, it is methodologically consistent to include other probability expressions in group seven's instrument for this experiment. Further, by including all six terms in group seven's instrument, the objectives of the present study are likely to be less apparent to subjects.

4.1.1 Research Design - Hypotheses $H_0$2a and $H_0$2b

The second hypothesis has two parts: a and b. Hypothesis $H_0$2a tests whether auditors share meaning with standard setters about the quantitative meaning conveyed by the term 'probable'. Hypothesis $H_0$2b tests whether auditors share meaning with the regulator about the quantitative meaning of 'virtually certain'[2]. As discussed in Chapter Two, analytic review reveals that (a) standard setters quantify 'probable' as meaning something greater than 50%; and (b) the regulator quantifies 'virtually certain' as meaning something greater than 95%. The aforementioned quantifications will be used to test hypotheses $H_0$2a and $H_0$2b which are stated in the null as:

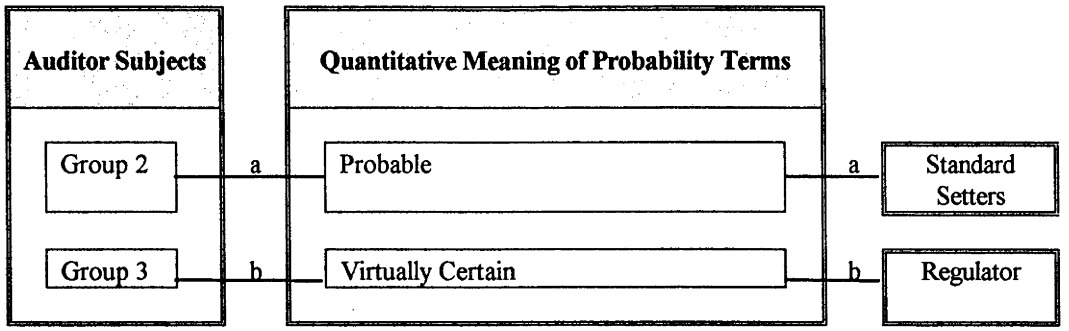
$H_0$2a: There is no significant difference between the quantitative meaning held by auditors and standard setters with respect to the term 'probable' used in financial statement element recognition criteria.

$H_0$2b: There is no significant difference between the quantitative meaning held by auditors and the regulator with respect to the term 'virtually certain' used in financial statement element recognition criteria.

Figure 2 presents the research design and lines (a) and (b) illustrate that testing $H_0$2a and $H_0$2b involves a comparison between the quantitative meaning held by auditors in groups two and three with that held by standard setters and the regulator respectively.

[2] As discussed in Chapter 2, the meaning of only two probability terms is examined through hypotheses $H_0$2a and $H_0$2b. This is because the two hypotheses are testing for differences in quantitative meaning and standard setters have only quantified 'probable' ($H_0$2a) and the regulator (ASIC) has only quantified 'virtually certain' ($H_0$2b).

Figure 2: Research Design - Hypotheses $H_0$2a and $H_0$2b



The use of analytic review (as opposed to empirical data) to obtain the quantitative meaning held by standard setters and the regulator presents a potential limitation of the present study and has been discussed previously (in section 2.11). However, in quantifying the meaning of 'probable' and 'virtually certain', standard setters and the regulator respectively have effectively indicated how they expect these terms to be interpreted by, among others, auditors. Consequently, the apparent limitation may be viewed as minor and, for reasons discussed (in section 2.11), the use of analytic review to ascertain the quantitative meaning held by standard setters and the regulator, is preferred in the present study.

To obtain the quantitative meaning held by auditors, subjects in groups 2 and 3 are each administered an instrument that asks for the interpretation and application of one of the six selected recognition criteria. This is done in a case decision context. The cases are hypothetical, simplified and brief but based on real-world examples. Subjects in group 2 examine cases requiring the application of the recognition criteria for inventory (with the relevant recognition test being 'probable'). Subjects in group 3 examine cases requiring application of the recognition of future income tax benefits for companies in tax loss situations (with the relevant recognition test being 'virtually certain'). In each case, and as part of the process, subjects are required to quantify the minimum quantitative equivalent of the recognition test. These quantifications will be used in testing hypotheses $H_0$2a and $H_0$2b.

4.1.2 Research Design - Hypotheses $H_0$3a and $H_0$3b

As with the second hypothesis, the third hypothesis also has two parts: a and b. Hypotheses $H_0$3a examines whether auditors share relative meaning with standard setters and hypothesis $H_0$3b examines whether auditors share relative meaning with the regulator in regard to the six recognition criteria selected for examination.

As was noted in Chapter Two (Tables 1 and 2), the meaning of recognition criteria (and the probability term therein), is often defined in relative terms by both the regulator and standard setters. That is, a term is interpreted and defined as conveying a higher or lower level of probability than some other term. For example, for both standard setters and the regulator, 'virtually certain' means greater degrees of certainty than 'assured beyond any reasonable doubt'. The question raised by this thesis is whether auditors share this relative meaning? The expectation is that they do not and the hypotheses are stated in the null as:

$H_0$3a: There is no significant difference between the relative meaning held by auditors and that held by standard setters with respect to the probability terms used in financial statement element recognition criteria.

$H_0$3b: There is no significant difference between the relative meaning held by auditors and that held by the regulator with respect to the probability terms used in financial statement element recognition criteria.

To test the hypotheses, the research design incorporates six auditor treatment groups (one for each of the selected probability terms). Research instruments will be administered to each group containing cases pertaining to recognition of financial statement elements selected for examination. The cases are hypothetical, simplified and brief but based on real-world examples.

Table 1 lists the groups, the financial statement element they examine and the relevant recognition criteria. After reading each case, subjects in each of the groups

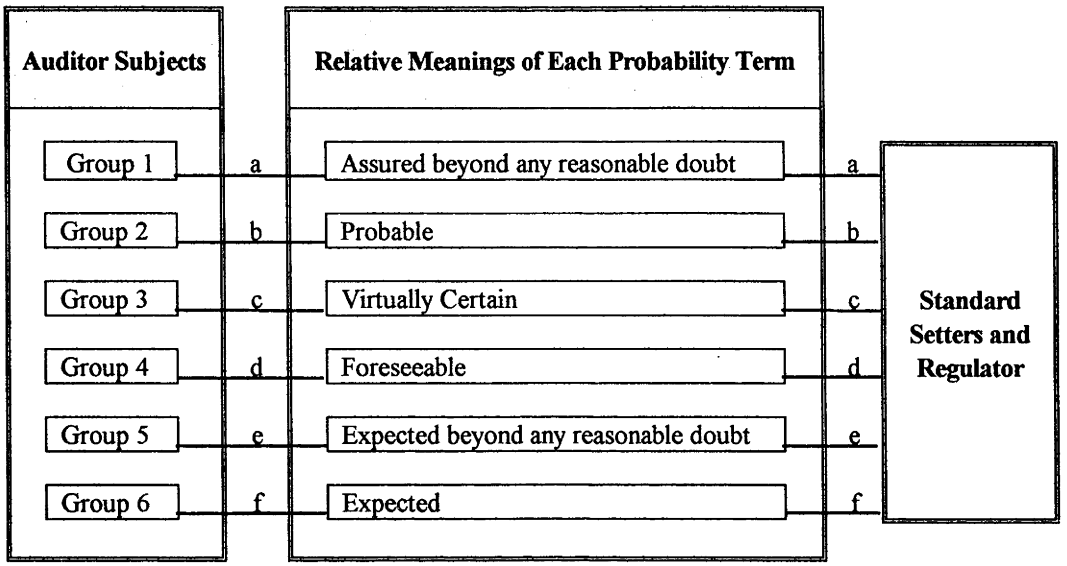
are asked to interpret and apply the relevant recognition criteria. The interpretation of the recognition criteria provides a measure of meaning held by each auditor group in each case.

Table 1: Recognition Criteria Examined by Groups One - Six

Group	Nature of Financial Element Examined	Accounting Standard and Relevant Recognition Criteria
1	Future Income Tax Benefit (where company is not in a tax loss situation).	AASB 1020 - Realisation of future benefits must be *assured beyond any reasonable doubt* to recognise as an asset.
2	Inventory	AASB 1019 - Realisation of future benefits must be *probable* to recognise as an asset.
3	Future Income Tax Benefit (where company is in a tax loss situation).	AASB 1020 - Realisation of future benefits must be *virtually certain* to recognise as an asset.
4	Losses on construction contracts.	AASB 1009 - When realisation of losses is *foreseeable* they should be recognised as an expense.
5	Research & development expenditure.	AASB 1011 - Realisation of future benefits must be *expected beyond any reasonable doubt* to recognise as an asset.
6	Development costs pertaining to a mine site.	AASB 1022 - Recoverability of these costs must be *expected* to recognise as an asset.

Having established the meaning held by each auditor group, between-group comparisons will establish the relative meanings of each term as held by the auditor subjects. This relative meaning is then compared with that of standard setters to test $H_0$3a, and the regulator to test $H_0$3b. Lines (a) – (f) in Figure 3 illustrate the research design used to test the two hypotheses. For example, as discussed above, standard setters and regulators interpret 'virtually certain' as conveying higher degrees of certainty than 'assured beyond any reasonable doubt'. A between-group comparison

Figure 3: Research Design - Hypotheses $H_0$3a and $H_0$3b



of groups one and three will test whether auditors, in a decision context, share the same relative meaning. This process will be repeated to determine the relative meaning of each term.

4.1.3 Research Design - Hypothesis $H_0$4

The fourth hypothesis addresses the first of the two central elements in the recognition decision process. That is, whether auditors' decisions are a function of, and dependent upon, a comparison between the probability of financial element realisation (judgement 1) and the probability conveyed by the recognition criteria (judgement 2). More succinctly, whether results in judgement 2 are used as a test for recognition/non-recognition as required in prescribed process.

As discussed in Chapter Three, it is expected that, in some circumstances, auditors make decisions that are inconsistent with use of the prescribed process and the decision outcome is not dependent on judgement 1 equalling or exceeding their judgement 2. In the null, it is hypothesised that:

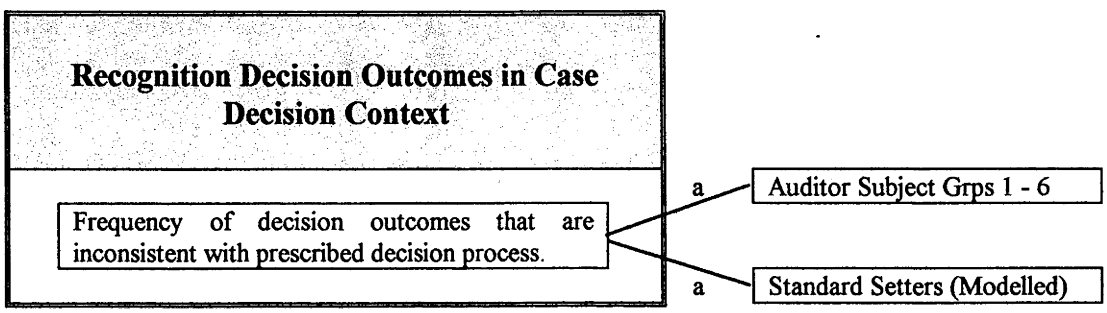
$H_0$4 There is no significant difference between decision outcomes that would occur under the process prescribed by standard setters versus the decision outcomes made by auditors in a recognition decision context.

Testing $H_0$4 will rely upon the results obtained from auditors in groups one - six. The instrument for these groups will contain a number of cases pertaining to recognition of one type of financial statement element (see Table 1). As previously discussed, the cases are hypothetical, simplified and brief but based on real-world examples.

After reading each case, the subject is asked to apply the relevant recognition criteria. In the process, the subject is required to indicate the results of judgement 1, judgement 2 and their decision as to recognition or non-recognition of the financial statement element[3]. For the purposes of testing hypothesis $H_0$4 the results of the two judgements and the decision outcome will then be analysed. The analysis will determine the frequency of auditor subjects' decisions that are consistent or inconsistent with use of the prescribed process. For example, where auditors recognise a financial element when, in their own judgements, the prescribed recognition test is not met, their decision process clearly differs from process prescribed by standard setters. The same conclusion will be drawn where auditors choose not to recognise a financial element even though, in their own assessment, the prescribed recognition test is met.

Figure 4 illustrates the research design associated with testing the fourth hypothesis. As highlighted by line (a), a between-auditor/standard setter comparison is conducted. The comparison examines the frequency of decision outcomes that are inconsistent with use

Figure 4: Research Design - Hypothesis $H_0$4



[3] These tasks are discussed in Chapter Three and represent the judgement and decision process prescribed by standard setters in financial statement element recognition criteria.

of the prescribed process with the frequency for standard setters modelled as nil. If significant numbers of auditors make decisions that differ from those that standard setters would prescribe (given judgements 1 and 2), the present study will conclude that auditors do not use the prescribed decision process as standard setters would expect.

4.1.4 Research Design - Hypothesis $H_0$5

The fifth hypothesis in the present study examines the second key element in the model decision process. That is, whether judgement 2 (the quantified meaning of the recognition criteria) remains constant across differing contexts ('contexts' meaning slight differences in case facts with respect to the regulator's monitoring presence). Both standard setters and the regulator interpret the meaning of recognition criteria as being significantly unaffected by context of interpretation and application. The present study expects that the meaning held by auditors will differ. That is, for auditors, significant differences in the meaning of recognition criteria will be associated with the context of interpretation and application. In the null form, the hypothesis is stated as:

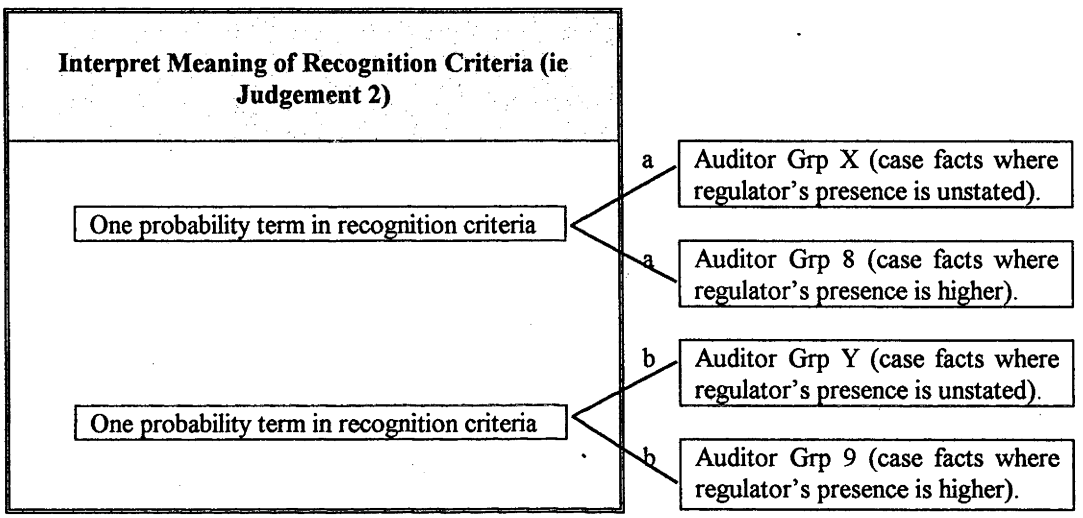
$H_0$5: For auditors, no significant difference in the quantitative meaning of probability terms used in financial element recognition will be associated with an increase in regulatory monitoring presence.

Testing the hypothesis requires using two control groups and two further treatment groups (groups eight and nine[4]). The control groups will be selected from groups one-six. The basis of selection will be the frequency of non-compliance with the prescribed decision process evident in the groups' decisions (to be determined in the testing of hypothesis $H_0$4). Assuming there is evidence of non-compliance, the present study will use two groups that display the greatest frequency of non-compliance. This criterion is chosen because the same two control groups are to be used in testing hypothesis $H_0$6 (which tests for an association between context and frequency of compliance/non-compliance with the prescribed decision process).

[4] Only two control groups and two further treatment groups are used because of constraints on subject numbers.

In this chapter, and for the immediate purposes of illustrating the research design used in testing $H_0$5, the two control groups are called 'group X' and 'group Y' (since it is not yet determined which of the 2 groups from groups one-six will become the control groups).

Figure 5: Research Design - Hypothesis $H_0$5



Lines (a) and (b) in Figure 5 highlight the manipulation of decision context (the independent variable) between groups X and eight and groups Y and nine respectively. The manipulation is achieved by altering case facts and increasing the regulatory monitoring presence in the cases considered by groups eight and nine[5].

As previously discussed, after reading each case, subjects in control groups are asked to interpret and apply the relevant recognition criteria. The interpretation will provide a measure of meaning held by each auditor group with respect to the recognition criteria. Groups eight and nine will receive identical instruments to the control groups except for the manipulation of context through alteration of case facts. In their cases, mention is made of the regulator (ASIC) having recently communicated with the audit client. Relative to the control groups, the interpretations or judgements made by groups eight and nine are expected to be more conservative. The conservatism will reflect in a negative association between the

[5] 'Increasing' is used in the following context. In cases examined by groups X and Y, no specific mention is made of the regulator. In cases considered by groups 8 and 9, case facts include mention of a letter from ASIC to the audit client. These latter facts are seen as effectively increasing the regulatory monitoring presence of ASIC relative to the cases considered by the control groups.

regulator's monitoring presence (the independent variable) and auditors' judgement 2 (the dependent variable). That is, the minimum quantitative meaning of recognition criteria is expected to be significantly less for groups eight and nine than the meaning of the same terms as interpreted by control groups X and Y respectively.

4.1.5 Research Design - Hypothesis $H_0$6

As with the fifth hypothesis, the sixth hypothesis also examines the effects of an increased regulatory monitoring presence on the recognition decision process. The process prescribed by standard setters requires recognition of the financial statement element only where the recognition test is met. However, for reasons discussed in Chapter Three, in some instances, auditors are expected to use a process that is inconsistent with the prescribed process (to be tested by $H_0$4 which is discussed in section 4.1.3). It is also expected that these instances will be fewer where the ASIC monitoring presence is high. This expectation is tested in hypothesis $H_0$6 which is stated in the null form as:

$H_0$6 No significant difference in auditors' recognition decision process will be associated with an increase in regulatory monitoring presence.

Figure 6: Research Design - Hypothesis $H_0$6

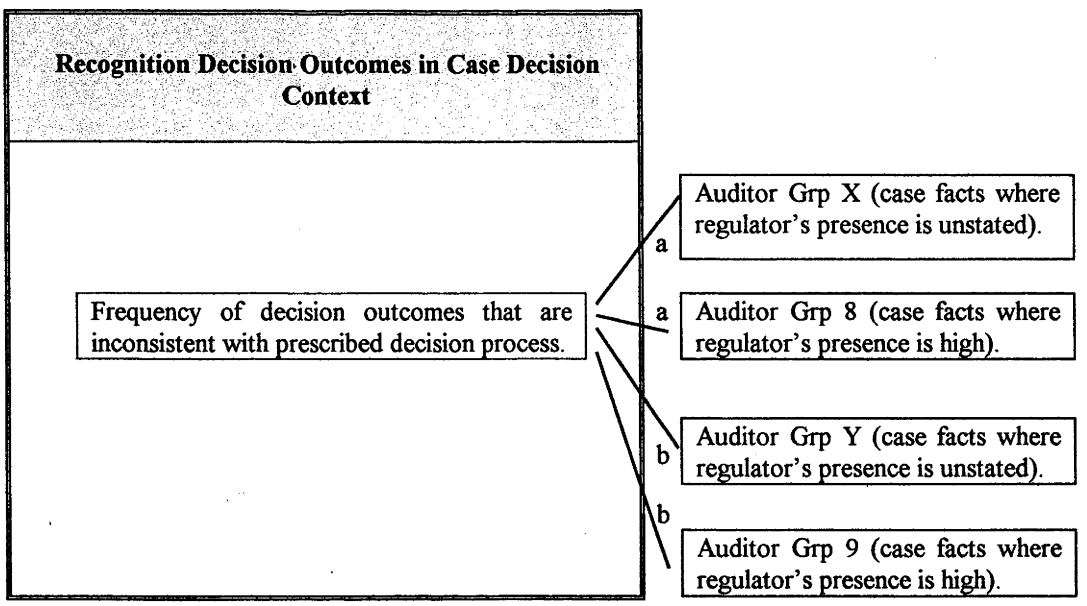


Figure 6 illustrates the research design used to test hypothesis $H_0$6. To test $H_0$6, case facts are manipulated between-groups in the manner previously discussed in relation to testing hypothesis $H_0$5. That is, control groups X and Y make recognition judgements and decisions in the context of cases where the ASIC is not mentioned. Groups eight and nine replicate the process except, in the cases they consider, mention is made of the ASIC having recently communicated with the audit client. An analysis of the judgements and resulting decision will then be conducted to determine the frequency of decisions that are inconsistent with use of the prescribed process. As highlighted by lines (a) and (b) in Figure 6, comparisons of these frequencies are then made between groups X and eight, and groups Y and nine respectively.

The nature of decision outcomes for groups eight and nine is expected to be more conservative. The higher regulator monitoring presence in their case facts increases the likelihood of accountability to the regulator. Therefore, in treatment groups eight and nine, fewer decisions are expected to be inconsistent with use of the prescribed process.

4.2 Development of Research Instruments

Previous discussion highlights that the research design in the present study incorporates two structurally different research instruments[6]. The first of these is required for the within-subject design effected through group seven. It focuses on the meaning of all six probability terms outside any case decision context (that is, the within-subject design). The second type of instrument is required for each of the remaining eight auditor groups (ie groups one-six, eight and nine) which facilitates a between-subject design. The purpose of this instrument is to enable examination of the judgements and decisions making up the process employed by auditors in applying financial element recognition criteria in a case decision context. The following discussion examines each of the two types instrument and begins with group seven's instrument used for the within-subject design.

[6] Copies of the research instruments are provided in Appendix 1 of this thesis.

4.2.1 Research Instrument for Group Seven: Within-Subject Design

The instrument completed by group seven consists of two cover pages, two distinct sections and copies of the relevant accounting standards in the appendix of the instrument. A copy of the instrument is placed in the appendix of this thesis.

4.2.1.1 Instrument Cover Pages for Group Seven

The two cover pages contain general statements about the nature and objective of the research. They discuss the fact that various accounting standards use particular recognition criteria for the recognition of financial statement elements. Examples of all six selected recognition criteria and the terms they use are provided. No indication of the hypotheses being tested or that between-subject comparisons will be made is given in these statements.

4.2.1.2 Section One of Research Instrument for Group Seven

This section of the instrument contains two parts with the first presenting all the selected probability terms. After reading each of the terms, (and, if they choose, the relevant accounting standards placed in the appendix of the instrument) the subject is required to indicate the minimum numeric equivalent conveyed by each of the probability expressions used in the criteria. Figure 7 (overleaf) is an extract of the instrument showing the task presented to each subject.

Figure 7: Extract From Section 1 of Research Instrument for Group Seven

In the space alongside each of the expressions below please quantify the minimum numerical level of probability (between 0 - 100% inclusive) that you believe to be equal to each of the expressions in the context of recognising assets, liabilities, expenses and revenues in the body of the financial statements.

The following is an example of what you are required to do and is not intended as a benchmark:

Example Only

"More than likely" means at least:	XX%
"Possible" means at least:	YY%
"Might" means at least:	YY%

If two or more of the expressions mean the same level of probability (as illustrated in the example) please indicate this by assigning them with the same numerical level of probability.

EXPRESSION	**PROBABILITY %**
"Foreseeable" means at least:	_____ %
"Assured beyond any reasonable doubt" means at least:	_____ %
"Expected" means at least:	_____ %
"Virtually certain" means at least:	_____ %
"Probable" means at least:	_____ %
"Expected beyond any reasonable doubt" means at least:	_____ %

In determining the meaning of subjective probabilities, Chesley (1978: p.236) reports no significant difference between results obtained through a variety of elicitation techniques. Despite this, the technique used in the present study is chosen because:

(a) Firstly, restating the entire recognition criteria (on one of the cover pages), and providing the accounting standard in the appendix of the instrument provides part of the context in which auditors must interpret the probability expression. Anderson (1990) notes that three separate steps occur in the process of applying recognition criteria. The first is the perception and encoding of the written words to a cognitive signal. Next, the words are converted from a cognitive signal to a mental representation indicating the meaning of the signal. Finally, the mental representation is utilised for decision making. After the written material has been read and parsed, the exact words are no longer remembered. *Only the concept is retained in the memory* (Anderson, 1990: p.366).

As noted by Davidson and Chrisman, one implication of Anderson's (1990) finding is that ' ... accountants will focus on the probability level they believe is being conveyed by the uncertainty words in the standard rather than on the precise words used' (1993: p.3). Consequently, for the purposes of the present study, it is important that subjects interpret the probability term within the context of the standard and the recognition criteria therein.

(b) Secondly, converting probability terms from the written word to a numerical equivalent is a relatively simple task. Consequently, the possibility that cognitive limitations could lead to difficulties with the task seems unlikely[7].

(c) Finally, the technique is widely adopted in previous relevant research. In a review of 37 studies that examine the meaning of terms conveying uncertainty or probability, Reagan, Mosteller and Youtz (1989) find the predominant research method is to have subjects assign a numeric equivalent between 0 - 100%. It seems reasonable to employ the same method in the present study since it is widely accepted and affords comparability with existing and future studies.

As highlighted in Figure 7, the six probability expressions are presented to subjects on a single page. To minimise the possibility of an order bias, five versions of the

[7] While Chesley (1978) reported no significant difference between elicitation techniques, cognitive limitations causing difficulty with research instruments is seen as a factor that may interfere with the results of studies on the meaning of uncertainty terminology (Davidson and Chrisman, 1993:p.10).

appearance order are to be randomly presented to subjects within the group. One version is as per the order shown in Figure 7 with the other four being different and randomly ordered versions.

Responses in this section represent within-subject, quantifications of the probability expressions outside a case decision context. A between-group comparison of responses from this group (concerning the meaning of 'virtually certain' and 'assured beyond any reasonable doubt') with those of groups one and three (to part one of their respective instruments) tests hypothesis $H_0 1$ as to whether an association exists between research design and the meaning of probability terms used in recognition criteria.

Part two of group seven's instrument presents all six expressions on a separate page and requires subjects to rank them from one through to six with 'one' meaning the highest level of probability and 'six' the lowest. If two or more expressions are interpreted as meaning the same probability the subjects are instructed to indicate this by ranking them with the same number. The order of appearance is altered in the same way as described (above) for part 1 of the instrument. The results in this section are not intended for use in testing any hypothesis. Rather, they will provide some assurance that subjects understand the assigned task in part one of their instrument.

4.2.1.3 Section Two of Research Instrument for Group Seven

Section two of the instrument contains questions concerning the subject's understanding of the tasks, their personal opinions about the level of probability that should be used in recognition tests for financial statement elements, their years of experience as an auditor and a request for any comment they wish to make about the research instrument. In the present study, this section of the instrument is used to ensure that subjects understand the tasks they are asked to complete and have sufficient years of experience as an auditor in Australia to warrant inclusion in the study.

4.2.2 Research Instrument for Groups One-Six, Eight and Nine: Between-Subject Design

The instruments designed for groups one-six, eight and nine (ie all groups other than group seven) consist of a cover page, four distinct sections and, in the appendix of the instrument, a copy of the relevant accounting standard. Copies of each instrument are placed in the appendix of this thesis.

4.2.2.1 Instrument Cover Page for Groups One-Six, Eight and Nine

The cover page of the instruments for all groups contains identical general statements about the nature and objective of the research instrument. No indication of the hypotheses being tested in the study is given in these statements. Further, these statements do not reveal between-subject comparisons will be made, that comparisons of subject responses with standard setters' or regulators' interpretations will be made and no information concerning the manipulation of ASIC's monitoring presence (or any other variable) is given.

4.2.2.2 Section One of Research Instrument for Groups One-Six, Eight and Nine

The first of the four sections requires subjects to make a judgement (outside any case decision context) about the meaning of one of the selected probability expressions. Figure 8 provides an example of instructions and task assigned to group one. In completing the task, the numeric probability assigned to each term provides a quantitative meaning outside a case decision context. This meaning will be used in the between-group testing of hypothesis $H_0 1$ (that tests for of an association between research design and meaning).

Figure 8: Extract From Section One of Research Instrument for Group One

AASB 1020 clause .12 states that future income tax benefits attributable to timing differences should not be recognised in the balance sheet unless it is assured beyond any reasonable doubt that these benefits will be realised.

What is the minimum level of numerical probability (between 0 - 100% inclusive) that you believe to be equal to the expression 'assured beyond any reasonable doubt'?

'Assured beyond any reasonable doubt' means at least - _____%

4.2.2.3 Section Two of Research Instrument - Groups One-Six, Eight and Nine

Section two of the instrument for groups one, three and eight contains four cases. These four cases all pertain to future income tax benefit recognition (in the context of tax-effect accounting) and are drawn from the study by Houghton and Walawski (1992). Section two of the instruments for the other groups (groups two, four, five, six and nine) contains two cases. These cases are specifically developed for the present study. Figure 9 presents one example of the cases and instructions considered by group one.

Figure 9: Extract From Section Two of Research Instrument for Group One

CASE 1

Quadstrad Ltd was incorporated in 1956. In July 1992 it became a publicly listed company on the Sydney stock exchange. Its principal activities are thoroughbred horse breeding, real estate development and it has significant interests in the retail motor vehicle industry. The management of the company has not changed significantly in the past ten years and there is no reason to expect any change in the future. The company has consistently derived sound profits (despite a severe recession) over the past four years and the share price has reflected great confidence in the company's ability to derive future profits. The company's total asset/total liability ratio is far better than the industry average and the company has never sustained a tax loss. In the current financial year ending 30 June 1994 the company's profits were again sound and above the industry average. The predictions for future economic, industrial and legislative conditions in Australia are the same as those that you are currently applying in your working environment.

REQUIRED

Assume you are the auditor for Quadstrad Ltd in the current financial year ended 30 June 1994 and you are assessing the situation with respect to carrying forward future income tax benefits attributable to timing differences.

1. Given the facts of the case how confident are you that the company will realise the future income tax benefits if they are carried forward?

   Please express your answer in terms of a numerical probability between 0 - 100% (inclusive). _____%

2. What is the minimum level of numerical probability (between 0 - 100% inclusive) that you believe to be equal to the phrase 'assured beyond any reasonable doubt'?

   'Assured beyond any reasonable doubt' means at least - _____%

3. Would you recognise the future income tax benefits as an asset on the balance sheet for the year ended 30 June 1994?

   Circle your response: YES / NO

All cases are hypothetical, simplified and brief but based upon real-world examples drawn from the annual reports of Australian public companies and/or from discussions with senior auditors (these auditors are not included as subjects in the study). However, company names and other identifying information are altered to ensure identification of the 'real-world' company was not possible. The nature of qualitative and quantitative information within each case is largely dependent upon the case itself and is sufficiently different to ensure considerable contextual variation between cases.

Each of the cases is presented to subjects on a separate page. To reduce the possibility of an order bias, the order of case appearance is reordered in 50% of the instruments examined by each group. After reading each case, the subjects are presented with three tasks. The three tasks represent the judgement and decision process prescribed in financial statement recognition criteria (discussed in 3.1).

The second of the three tasks elicits the subject's numeric interpretation of the probability term in a case decision context. Depending upon which group it comes from, this interpretation will be used in testing $H_0$1, $H_0$2a, $H_0$2b, $H_0$3a, $H_0$3b and $H_0$5. The responses from all three tasks are to be used, depending on the group, in testing $H_0$4 and $H_0$6.

4.2.2.4 Section Three of Research Instrument - Groups One-Six, Eight and Nine

In section three of the instrument, subjects are required to complete a semantic differential. Results from this section are not intended for use in the present thesis and are to be reported in a separate study. In all instruments, this section was presented to subjects after sections one and two of the instrument. Subjects were instructed to complete each section in the order of appearance and not to go back and amend responses in previous sections. Consequently, it seems unlikely that completion of section 3 (the semantic differential) could have affected results emanating from sections one or two of the instrument and it is only the latter which are used in hypothesis testing in the present study.

4.2.2.5 Section Four of Research Instrument - Groups One-Six, Eight and Nine

Section four of the instrument contains questions about the subject's understanding of the tasks, their personal opinions about the level of probability that should be used in recognition tests for financial statement elements, their years of experience as an auditor and a request for any comment they wish to make about the research instrument. In the present study, this section of the instrument is used to ensure subjects understand the tasks they are asked to complete and possess sufficient years of experience as an auditor in Australia to warrant inclusion in the study.

4.3 Subject Selection

The selection of subjects is influenced by the nature of the research questions and practical experience with the tasks to be completed. The focus of the present study draws a comparison between users of accounting standards, standard setters and regulators with respect to interpretation and application of financial statement element recognition criteria. Therefore, subjects in the present study must necessarily be persons who, in practice, use the recognition criteria in a decision making context.

Such decisions are generally made by a company's senior management. However, in practice, considerable advice in the final decision is often sought from the auditor. Further, auditors are required to express an opinion[8] as to whether financial statements have been drawn up in accordance with approved Australian accounting standards (AuSB, 1997: p. 343). Consequently, auditors represent an expert user group - they have practical decision making experience with the accounting standards selected for examination in the present study and are an appropriate subject group.

Auditors with at least four years practical experience will have completed the professional year[9] and possess at least two years experience in a supervisory capacity. Importantly, four years as an auditor would almost certainly mean the person had

[8] This requirement stems from by section 331B (1)(a) of the Australian Corporations Legislation and auditing standard 'AUS 702 The Audit Report on a General Purpose Financial Report'.

[9] At the time the present study was conducted, the professional year was a postgraduate year of study and only upon successful completion of this could a person admitted entry into the Institute of Chartered Accountants in Australia. It is now called the 'CA Program'.

obtained experience with the judgements and decisions relevant to the present study. Therefore, an experienced auditor is defined as one with at least four years of audit experience - less than this and the subject is considered insufficiently experienced (in making financial element recognition decisions) to be included in the present study's sample. Subjects with less than four years experience will be excluded from the sample.

A letter was mailed or telephone call placed to the managing partners of first and second tier chartered accounting firms seeking the firms' involvement in the research. Each of the firms that agreed to participate were then asked to issue memorandums or emails inviting experienced auditing staff (ie having 4 or more years of audit experience) to participate. As a result, the auditor subjects included in the sample are voluntary participants from various first and second tier chartered accounting firms in the Australian capital cities of Melbourne, Sydney, Perth and Adelaide[10].

The initial sample of auditors contained 187 subjects and nine were excluded as having less than the required experience. Two further subjects (from the firm of Ernst & Young) were then obtained to bring the total number of subjects included in the study up to 180 which facilitated nine equal groups of twenty subjects[11]. The audit experience of all subjects is discussed in detail in Chapter Five and it is sufficient to mention here that (a) the smallest number of years as an Australian auditor possessed by a subject is 4; (b) the highest is 39 years; and (c) the mean years of experience for all subjects is 10.6 years (standard deviation: 6.7 years).

4.4 Administration and Data Collection

There are two alternative methods that lend themselves to administration of the research instruments used in the present study. The first involves mailing the instrument to subjects and have it completed in a field setting without direct supervision or oversight. The second involves administering the instrument under direct supervision and under laboratory conditions.

[10] Participating firms are Arthur Andersen & Co, BDO Nelson Parkhill, Coopers & Lybrand, Deloitte Touche Tohmatsu, Duesburys, Ernst & Young, Pitcher Partners and Price Waterhouse. Of course, a number of these firms no longer exist but are mentioned here in the interests of accuracy.

[11] While this is inconsistent with true random sampling, the small number of subjects involved seems unlikely to have significantly affected results.

Mail questionnaires have certain limitations and authorities such as Kerlinger recommend that, if possible, alternative methods are preferable (1986, p. 380). These limitations include factors such as generally low rates of response and the possibility of contaminated responses. For example, it is not certain that subjects have completed the instrument independently, in the order specified or in a conscientious manner.

In comparing field and laboratory settings, Kerlinger notes that 'The aim of laboratory experiments, then, is to test hypotheses ... to study precise interrelationships of variables and their operation, and to control variance under research conditions that are uncontaminated by the operation of extraneous variables. As such, the laboratory experiment is one of man's greatest achievements ... conceding the lack of representativeness (external validity) the laboratory experiment still has the fundamental pre-requisite of any research: internal validity ... The control of the experimental field situation is rarely as tight as that of the laboratory experimental situation ... The investigator in a field situation, though he has the power of manipulation, is always faced with the unpleasant possibility that his independent variables are contaminated by uncontrolled environmental variables' (1973, p.401-402).

Given the weaknesses that exist with mailed questionnaires, the present study was conducted in a laboratory setting under the supervision of the researcher. The choice is predicated on the belief that the benefits of greater control over the manipulation of independent variables and data collection outweigh the possible reduction in external validity. It is acknowledged that a reduction in external validity may impose a limitation on the generalizability of results and this is accepted as such.[12]

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[12] Swieringa and Weick (1982) and Snowball (1986) review laboratory experiments in accounting. On the issue of laboratory versus field setting, an experimental laboratory study produced highly similar results to an earlier field study (Houghton and Robinson, 1987).

4.4.1 Pre-Testing and Data Collection

The instruments were pre-tested with experienced auditors and accountants to ensure instructions are clear, cases are realistic and the instruments are internally consistent.[13] Minor adjustments were made to some instruments as a result of debriefing comments made in pre-testing.

Following pre-testing, the data was collected under laboratory conditions in the offices of the accounting firms over a period of six months. During this time, economic conditions were stable. The occasions for collection were generally audit training sessions. In total, there were 18 data collection sessions spread over the different firms within the four different cities[14].

The researcher was present at all collection sessions. At each session, subjects were randomly assigned to one of the nine treatment groups[15]. Consequently, instructions were generalized to avoid sensitizing or confusing the subjects. At each session the researcher stated that subjects with 4 or more years of Australian audit experience were being asked to participate. Subjects were then instructed to complete the instrument without consulting their peers but they were free to consult the accounting standards attached as an appendix to their instrument and any reference material used in their profession. Subjects were also requested not to change their responses after completing each task and any questions were responded to on an individual basis. The instruments took between 15-35 minutes to complete and no evidence of subject fatigue was apparent.

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[13]Twenty nine highly experienced auditors and accountants were involved in pre-testing. They included partners, senior academics, senior accountants from the Broken Hill Proprietary Company Ltd (BHP) and members of the Group of 100 (a group comprised of senior accountants, financial controllers and senior executive officers from the 100 largest organizations operating in Australia). None of those used in pre-testing are included in the experiment sample.

[14] In total, data collection took approximately 7 months during the years 1994/1995.

[15] However, as was discussed in footnote 11, two subjects were not randomly assigned to treatment groups, and due to constraints on subject numbers, this was accepted for the purposes of the present study.

4.5 Summary

The present study uses two structurally different types of research instrument to examine questions addressed in six hypotheses. The first instrument is required for the within-subject design and used in testing hypothesis $H_0$1 for an association between experimental design and the meaning of probability terms. It focuses on the meaning of all six probability terms outside any case decision context (that is, the within-subject design). The second type of instrument is used in the between-subject design to test the remaining hypotheses which examine the meaning of probability terms and the sharing of understanding between auditors, standard setters and the regulator concerning the judgement and decision process inherent in financial statement element recognition criteria.

The instruments developed were pre-tested and are believed to be reliable, internally consistent and valid. All cases used are based upon examples drawn from the annual reports of Australian public companies and/or from discussions with senior auditors. However, company names and other identifying information are disguised. The nature of qualitative and quantitative information is sufficiently different to ensure considerable contextual variation between cases.

Of minor concern is the task order in the instruments completed by groups one-six, eight and nine (with respect to sections one and two), ie it may lead to results from these groups being affected by anchoring and thus influencing the testing of $H_0$2 and $H_0$3. To explain, in section one, subjects were instructed to assign a numeric meaning to a probability expression outside a decision context. In section two, the task, inter alia, was repeated within a case decision context. While anchoring may occur, all groups face the same tasks in the same order. Therefore, in between-group comparisons, any effects of anchoring are likely to be removed.

The data collection process was completed in as objective a manner as possible. The presence of the researcher at all sessions ensured all subjects received the same instructions. All subjects completed the instrument in an independent and apparently conscientious manner. With all subjects taking somewhere between 15-35 minutes to complete the instrument, evidence of subject fatigue was neither expected nor apparent.

CHAPTER 5

DATA ANALYSIS AND RESULTS: HYPOTHESES $H_0$1 - $H_0$3b

5.0 Objectives and Structure

The hypotheses developed in this thesis can be divided into two categories: those that examine the meaning of recognition criteria ($H_0$1 - $H_0$3b), and those that examine the decision process implicit in recognition criteria ($H_0$4 - $H_0$6). This chapter's principal objective is to present the results of testing the hypotheses in the first category (ie $H_0$1 - $H_0$3b)[1]. The chapter is structured as follows. Section 5.1 is a summary or overview of the present thesis and revisits the hypotheses and research designs for $H_0$1 - $H_0$3b. Section 5.2 is an analysis of data relevant to $H_0$1 - $H_0$3b and obtained through parts 1 and 2 of the research instrument from auditor treatment groups. Section 5.3 examines whether subject inexperience, subject mis-understanding and case specificity are likely to confound results of hypotheses testing. Sections 5.4 - 5.6 present results of testing hypotheses $H_0$1 - $H_0$3b and section 5.7 summarises these results.

5.1 Overview of the Study and Summary of Hypotheses and Research Design

One of the present study's main aims is to examine whether effective communication exists between three key participants in the external financial reporting environment: auditors, standard setters and the corporate regulator - the Australian Securities and Investments Commission (ASIC). The study uses auditor subjects and compares (a) their judgements and (b) their decisions with that of, or prescribed by, Australian standard setting bodies and ASIC. The judgements and decisions in question concern the interpretation and application of financial statement element recognition criteria. These criteria are developed and communicated by standard setters in legally binding accounting standards. Auditors are required to give an opinion as to whether their clients have complied with these standards (and the recognition criteria therein) when preparing financial statements. Compliance with the criteria is monitored and enforced by ASIC. Therefore, for each participant to perform their role properly and for communication about these criteria to be effective, the three participants should share an understanding about (a) the meaning and (b) the application of the criteria.

[1] The remaining hypotheses ie $H_0$4 - $H_0$6, are discussed in Chapter Six.

Table 1: The Meaning of Probability Terms Held by Standard Setters and the Regulator

Accounting Pronouncement	Term Used in Recognition Criteria	Standard Setters Meaning		Regulator Meaning	
		Relative	Quantitative	Relative	Quantitative
AASB 1020	Virtually certain	Higher than 'assured beyond any reasonable doubt' and 'probable'.	Not quantified.	As per standard setters.	Something greater than 95%.
AASB 1020	Assured beyond any reasonable doubt.	Lower than 'virtually certain' and higher than 'probable'.	Not quantified.	As per standard setters.	Not quantified.
AASB 1019	Probable	See discussion on above two terms. Similar to 'expected', 'expected beyond any reasonable doubt' and 'foreseeable'.	Something that is 50% or greater.	Lower than 'virtually certain', 'assured beyond any reasonable doubt' and 'expected beyond any reasonable doubt'. Differs from 'expected' or 'foreseeable' (direction of difference is unclear).	Not quantified.
AASB 1009	Foreseeable	See discussion on 'probable'.	Not quantified.	See discussion on 'probable'.	Not quantified.
AASB 1011	Expected beyond any reasonable doubt.	See discussion on 'probable'.	Not quantified.	See discussion on 'probable'.	Not quantified.
AASB 1022	Expected	See discussion on 'probable'.	Not quantified.	See discussion on 'probable'.	Not quantified.

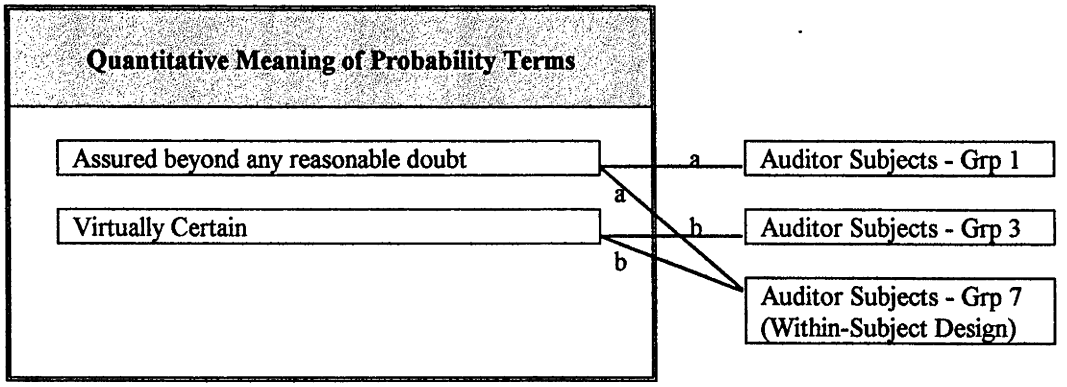
The present study examines whether the aforementioned communication is effective and selects six recognition criteria to effect that examination. The six criteria are similar in that they prescribe a test. This test is a level of probability that must be met before recognition of a particular financial statement element can occur. While each of the criteria is similar in that they prescribe a test, they differ in that they employ different probability terms to describe or articulate the test. That is, the tests for recognition are linguistically different. In Chapter Two, accounting pronouncements, publications and statements were analysed to determine the way standard setters and regulators interpret these recognition criteria. Table 1 summarises this analysis showing the two participants share an understanding about the relative meaning of (a) 'virtually certain' conveying a higher probability than 'assured beyond any reasonable doubt' and (b) both these terms conveying a higher probability than 'probable'. However, they do not share the same understanding about the relative meanings of 'expected', 'expected beyond any reasonable doubt', 'foreseeable' and 'probable'.

Chapter Two then examined prior research into how the probability terms are interpreted by Australian auditors and accountants and whether their interpretations are consistent with those of standard setters and/or regulators. Few studies exist and most used questionable elicitation techniques or the results therein may also have been affected by the use of a within-subject design.

However, as noted, the limitations of within-subject designs on probability judgements have not previously been tested. Accordingly, Chapter Three developed the first hypothesis in this study to test for an association between experimental design (ie within-subject as opposed to between-subject design) as the independent variable and auditor interpretations of probability terms as the dependent variable.

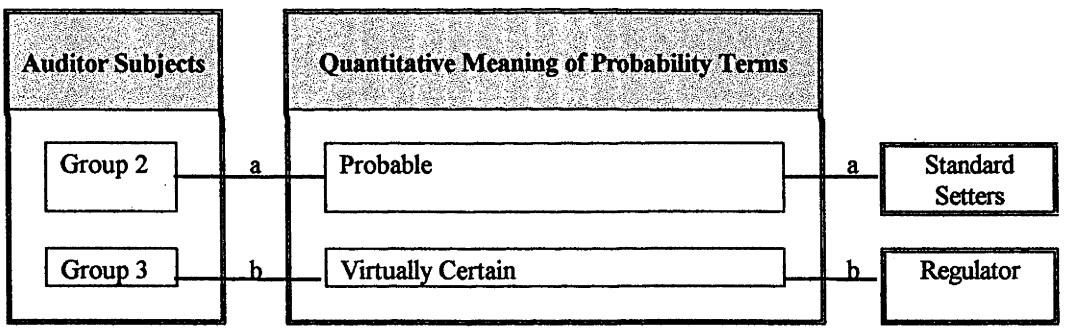
Figure 1 presents the research design related to this hypothesis. Lines (a) and (b) show that results obtained from auditors in group seven about the minimum numerical equivalents, or quantitative meaning, of two terms (the within-subject design) are compared with those from auditors in groups one and three (the between-subject design).

Figure 1: Research Design - Hypothesis $H_0$1



Chapter Three developed further hypotheses the second having two parts: a and b. Hypothesis $H_0$2a tests whether auditors share meaning with standard setters about the quantitative meaning conveyed by the term 'probable'. Hypothesis $H_0$2b tests whether auditors share meaning with the regulator about the quantitative meaning conveyed by

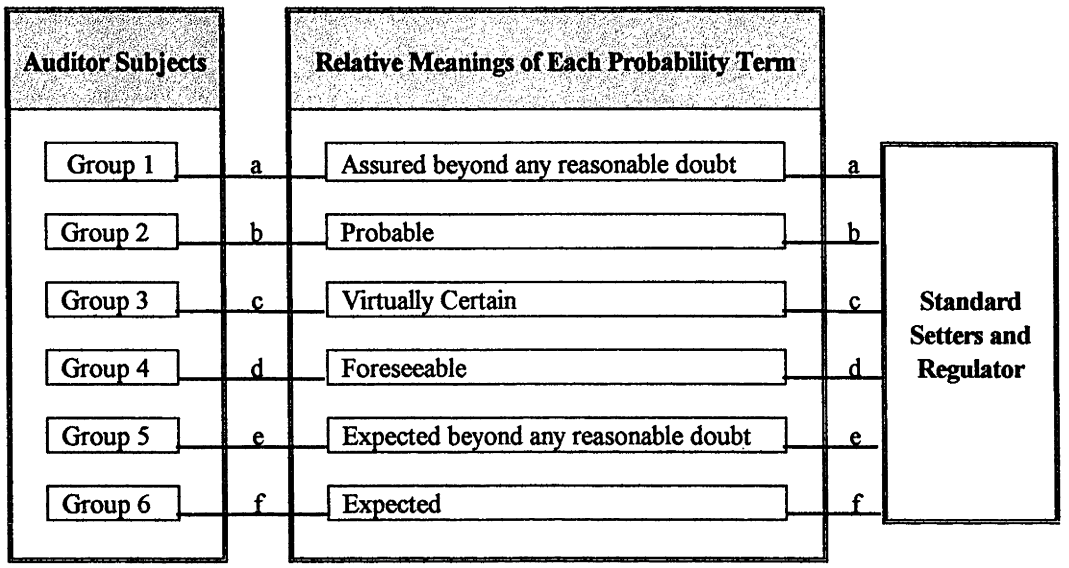
Figure 2: Research Design - Hypotheses $H_0$2a and $H_0$2b



the term 'virtually certain'. In Figure 2, lines (a) and (b) show testing $H_0$2a and $H_0$2b involve a comparison between the quantitative meaning held by auditors in groups two and three with that held by standard setters or the regulator respectively.

Figure 3 presents the research design for the third hypothesis developed in Chapter Three. It also has two parts: a and b. Hypothesis $H_0$3a examines whether auditors share meaning with standard setters, and hypothesis $H_0$3b examines whether auditors share meaning with the regulator with respect to relative probabilities conveyed by the six recognition criteria. As was noted in Table 1, the meaning of a term, as held by standard setters and the regulator, is often expressed in relative terms. That is, a term is

Figure 3: Research Design - Hypotheses $H_0$3a and $H_0$3b



defined as conveying a higher or lower level of probability than some other term. In testing hypotheses $H_0$3a and $H_0$3b, between auditor group comparisons will first establish the meaning of a term, relative to the other terms. This relative meaning is then compared with that of standard setters to test $H_0$3a, and the regulator to test $H_0$3b (as represented by lines a - f in Figure 3).

5.2 Descriptive Statistics

This section discusses the responses from auditor groups 1-7 to tasks in sections 1 and 2 of the research instruments[2]. The discussion is broken up into two parts. Section 5.2.1 examines data and descriptive statistics from section 1 of the research instrument while section 5.2.2 examines data and descriptive statistics from section 2.

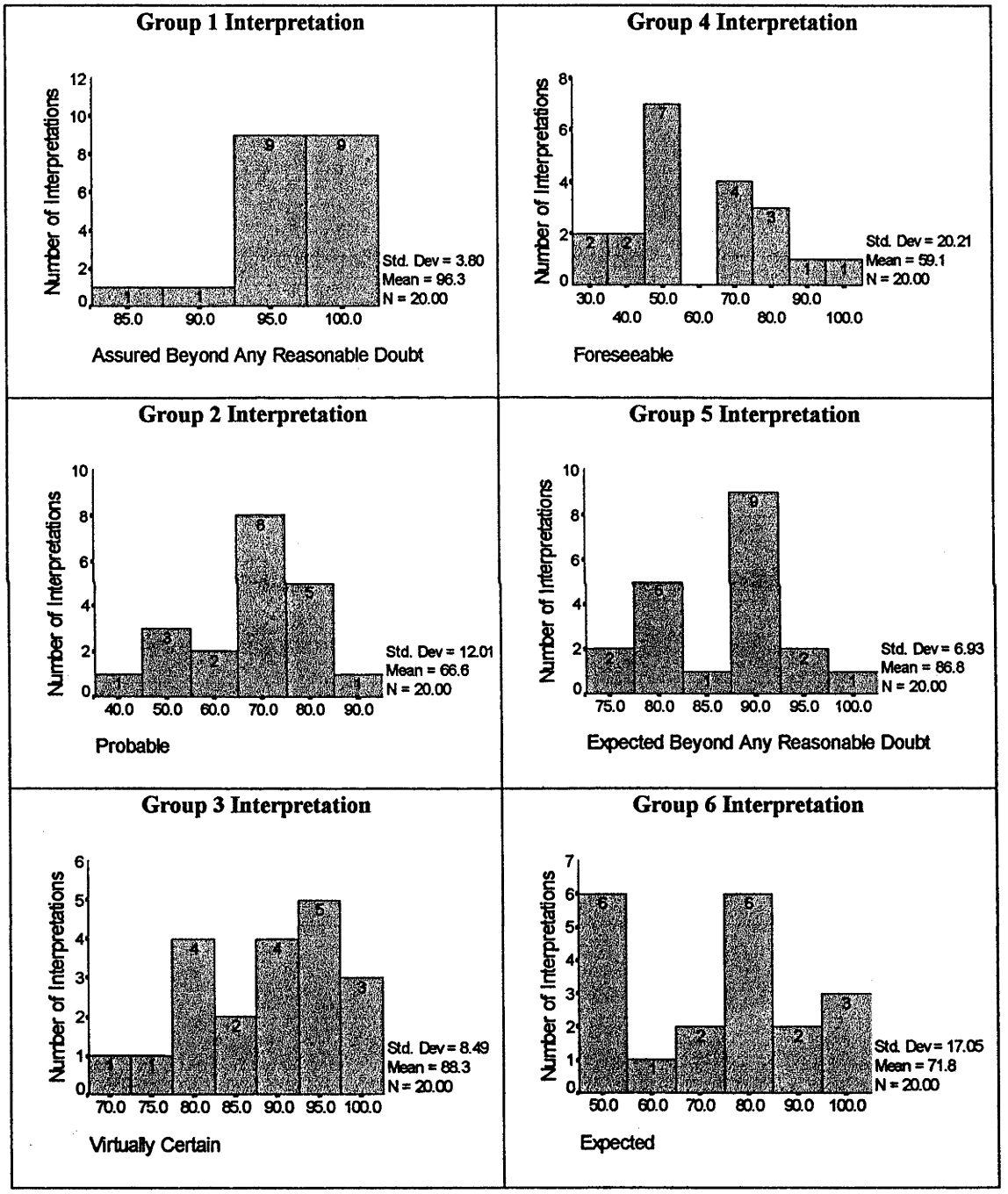
5.2.1 Descriptive Statistics: Section 1 of Research Instrument - Groups 1-7

Section 1 of the research instrument for groups 1-6 asked each auditor subject to quantify the minimum numerical equivalent of one of the six probability terms (between-subject design). Section 1 of the instrument completed by group 7 required subjects to quantify the minimum numerical equivalent of all six probability terms (within-subject design). For all groups, the task was required outside any case decision

[2] Data collected from auditor treatment groups 8 and 9 do not pertain to the testing of hypotheses discussed in this chapter. It is discussed later in the following Chapter Six.

context. Data from Section 1 pertains to hypothesis $H_0 1$ and tests for an association between experimental design (within-subject vs between-subject) and the meanings of 'assured beyond any reasonable doubt' and/or 'virtually certain'[3].

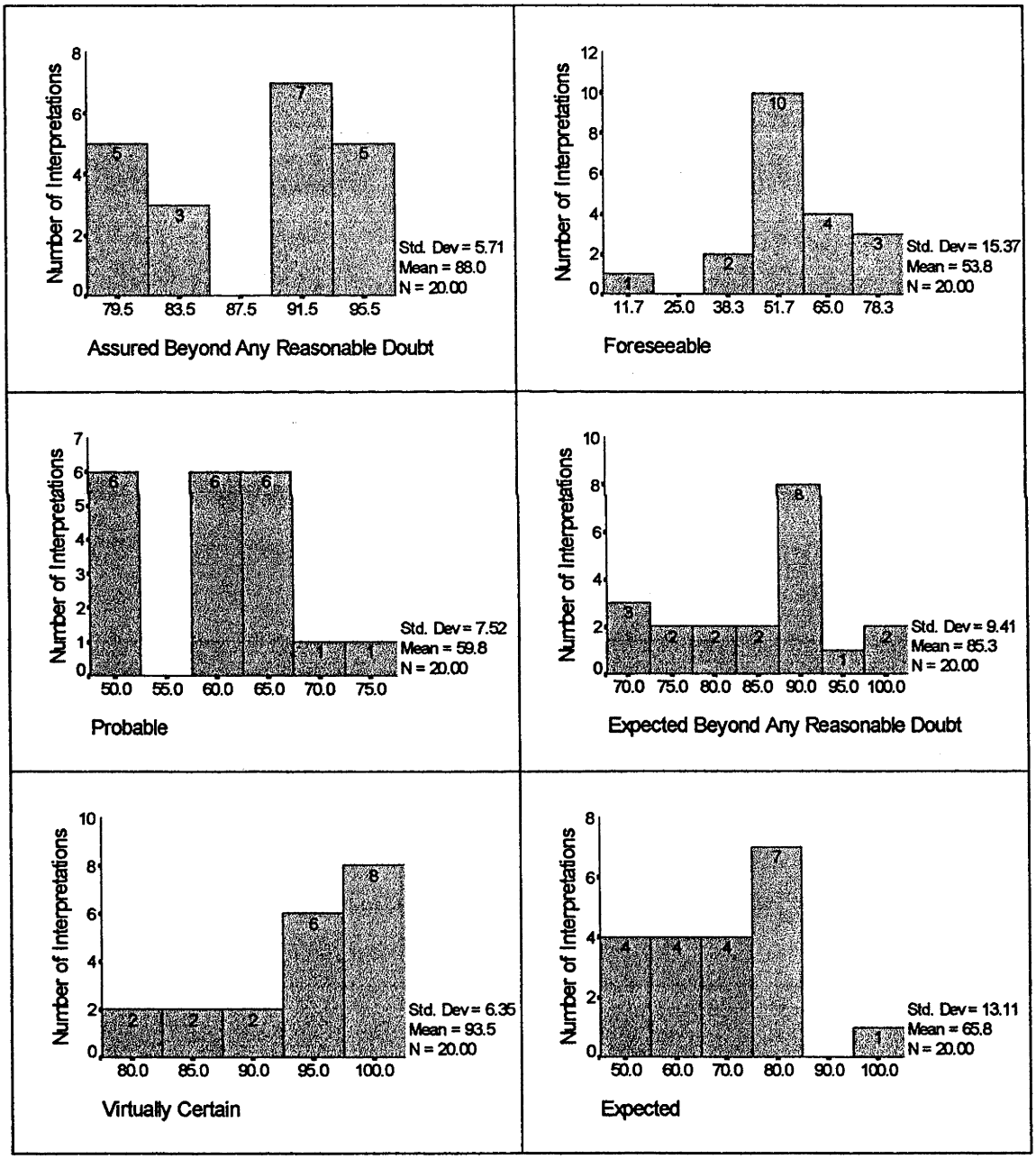
Table 2: Between-Subject Design - Auditor Treatment Groups 1-6
Interpretations of Probability Terms



[3] As previously discussed, earlier studies reporting the meaning of 'assured beyond any reasonable doubt and 'virtually certain' used a within-subject design. These same studies also asked subjects to interpret other terms in addition to two above. Consequently, while the present study is concerned only with interpretations of the aforementioned two terms, it replicates earlier studies with the treatment of group 7 by also requiring subjects to interpret other terms.

Table 2 presents graphs of groups 1-6's interpretations of the six terms (the between-subject design). Table 3 presents graphs of group 7's interpretations of all six terms (the within-subject design). On each graph, the horizontal axis is the minimum numeric equivalent (0-100%) assigned by the subjects. The vertical axis is the number of interpretations of the term made by the group. Additionally, within each of the bars is

Table 3: Within-Subject Design - Auditor Treatment Group 7
Interpretations of Probability Terms



The number of subjects' interpretations plotted by the bar (in all groups N=20). Means and standard deviations are listed alongside each graph.

Examining the means reveals that, with one exception (in the case of 'virtually certain'), subjects in the between-subject design assign higher numeric meanings to the terms than do subjects in the within-subject design. Data in both research designs seems consistent with other studies that report low variance in the meaning of terms conveying high degrees of probability (eg 'virtually certain' and 'assured beyond any reasonable doubt'). This may be because the meaning of such terms is bounded, at the higher end, by certainty.

However, in the within-subject design, homogeneity for interpretations of 'probable' is also quite high with the standard deviation being almost half that found in the between-subject design. This difference may be due to subjects in the within-subject design being more sensitive (through the design) to the dependent variable (ie the meaning of 'probable' is defined as being something more than 50% by standard setters). If this is the case, the heightened awareness may effectively place a lower boundary on the meaning of 'probable' for subjects wishing to be seen as complying with accounting pronouncements. The lower boundary could then act to reduce the variability of interpretations. Consistent with this thought, no subject in the within-subject design interprets 'probable' as meaning anything less than 50% or anything greater than 80% (unlike between-subject data). Additionally, 30% of subjects in the within-subject design interpret the meaning of 'probable' in the 50-51% range while only 15% do so in the between-subject design.

Table 4 summarises the descriptive statistics and ranks the means conveyed by the terms in each research design. Subjects in both designs rank 'expected beyond any reasonable doubt', 'expected', 'probable', and 'foreseeable' 3rd-6th respectively. That is, the four terms are interpreted as conveying similar relative meanings.

However, the relative meanings of 'assured beyond any reasonable doubt' and 'virtually certain' differ between research designs. Auditor subjects in the between-subject design interpret 'assured beyond any reasonable doubt' as conveying a

Table 4: Summary of Descriptive Statistics: Interpretations of Probability Terms in Between-Subject and Within-Subject Designs

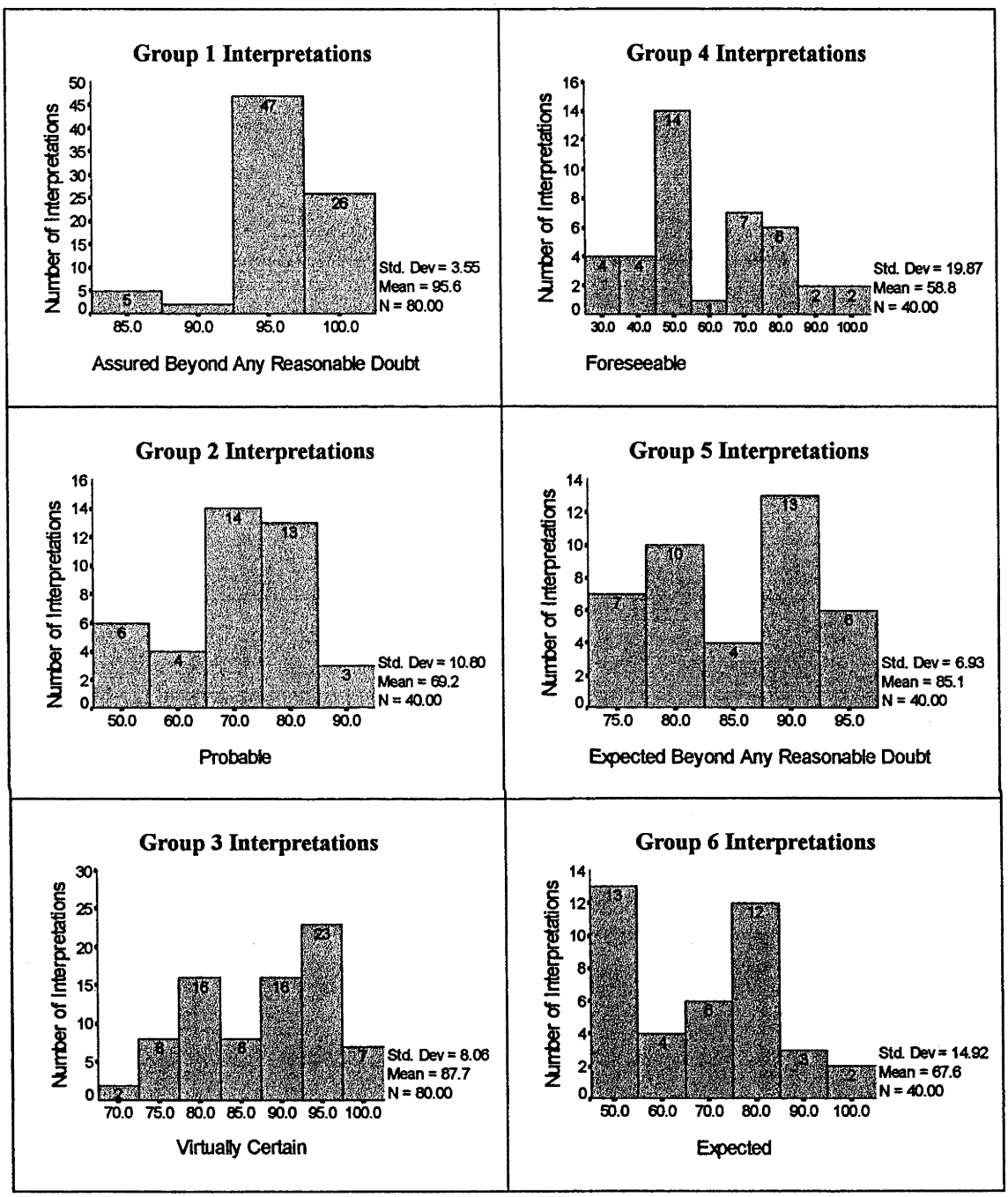
Probability Term	Between-Subject Design		Within-Subject Design	
	Descriptive Stats.	Rank	Descriptive Stats.	Rank
Assured Beyond Any Reasonable Doubt	Mean=96.3 Std. Dev.=3.8	1	Mean=88.0 Std. Dev.=5.71	2
Virtually Certain	Mean=88.3 Std. Dev.=8.49	2	Mean=93.5 Std. Dev.=6.35	1
Expected Beyond Any Reasonable Doubt	Mean=86.8 Std. Dev.=6.93	3	Mean=85.3 Std. Dev.=9.41	3
Expected	Mean=71.8 Std. Dev.=17.05	4	Mean=65.8 Std. Dev.=13.11	4
Probable	Mean=66.6 Std. Dev.=12.01	5	Mean=59.8 Std. Dev.=7.52	5
Foreseeable	Mean=59.1 Std. Dev.=20.21	6	Mean=53.8 Std. Dev.=15.37	6

higher probability than 'virtually certain'. The reverse is true in the within-subject design and it is this second interpretation that is consistent with the meaning held by standard setters and the regulator. It is also consistent with the view that subjects in the within-subject design are likely to be more sensitive to authoritative accounting pronouncements that discuss the relative meanings of the two terms because what is being tested (ie the relative meaning of the two probability terms) is more apparent in the within-subject design.

5.2.2 Descriptive Statistics: Section 2 - Groups 1-6

Section 2 of the research instrument has auditors in groups 1-6 read a number of cases and, after reading each case, apply the relevant recognition criteria. Part of this process requires the judgement concerning the meaning of the test inherent in the

Table 5: Auditor Treatment Groups 1-6 Interpretations of Probability Terms in Case Decision Context



recognition criteria. Table 5 presents descriptive statistics and graphs the data for groups 1-6's judgements concerning the meaning of the six probability terms in case decision contexts. Responses from each group are pooled across the cases they examined. Accordingly, data presented for groups examining 2 cases shows N=40 (ie 20 subject interpretations x 2 cases). For groups examining 4 cases, N=80.

In general, the data seems consistent with other studies that report lower variance in the meaning of terms conveying higher degrees of probability. In the present study, decision-context interpretations of 'assured beyond any reasonable doubt', 'virtually certain' and 'expected beyond any reasonable doubt' (terms that convey the relatively higher probabilities) show less variance than interpretations of 'probable', 'expected' and 'foreseeable'. As previously suggested, this may well be because the meaning of such terms is bounded, at the higher end, by certainty (ie 100%).

Table 6: Summary of Descriptive Statistics Groups 1-6: Comparison of Interpretations Within a Decision Context and Outside a Decision Context

Probability Term	Within Decision Context (Section 2 Responses)		Outside Decision Context (Section 1 Responses)	
	Descriptive Stats.	Rank	Descriptive Stats.	Rank
Assured Beyond Any Reasonable Doubt (Group 1)	Mean=95.6 Std. Dev.=3.55	1	Mean=96.3 Std. Dev.=3.80	1
Virtually Certain (Group 3)	Mean=87.7 Std. Dev.=8.06	2	Mean=88.3 Std. Dev.=8.49	2
Expected Beyond Any Reasonable Doubt (Group 5)	Mean=85.1 Std. Dev.=6.93	3	Mean=86.8 Std. Dev.=6.93	3
Probable (Group 2)	Mean=69.2 Std. Dev.=10.80	4	Mean=66.6 Std. Dev.=12.01	5
Expected (Group 6)	Mean=67.6 Std. Dev.=14.92	5	Mean=71.8 Std. Dev.=17.05	4
Foreseeable (Group 4)	Mean=58.8 Std. Dev.=19.87	6	Mean=53.8 Std. Dev.=15.37	6

Table 6 summarises the descriptive statistics and ranks the means assigned to each term by groups 1-6 in sections 1 and 2 of their instruments. The table assists in comparing data from these two sections. This is a within-subject comparison of

interpretations made within a decision context against those interpretations made outside a decision context[4]. Within a case decision context, 'assured beyond any reasonable doubt', 'virtually certain' and 'expected beyond any reasonable doubt' convey the higher probabilities. This is also true for the judgements made outside a case decision context. However, with respect to the other three terms, the means for 'probable', 'expected' and 'foreseeable' rank 4th, 5th and 6th respectively within a case decision context but rank 5th, 4th, and 6th outside the case decision context.

Table 6 highlights that differences between the meaning of terms do not appear systematic when comparing results from section 1 (ie outside a case decision context) with results from section 2 (ie within a case decision context). For the terms conveying higher probabilities, the mean is slightly lower in judgements made within a case decision context. This is also true for 'expected' which conveys a relatively low probability but it is not the case for terms such as 'probable' and 'foreseeable' which also convey relatively low probabilities.

Table 6 also presents useful information regarding variability in interpretations. With respect to the meaning of 'foreseeable', dispersion around the mean in judgements made within a decision context is slightly higher than for those judgements made outside a decision context. This is not true in interpretations for the other five terms. Rather, dispersion around the mean in judgements made within a decision context is the same or slightly less than dispersion around the mean for judgements made outside a decision context.

In some respects this is unexpected because prior literature suggests variance is likely to increase when interpretations are made in a case decision context (eg Beyth-Marom, 1982). However, in the present study, and for 5 of the 6 terms examined, the variance in judgements made within a case decision context appears the same or lower than the variance seen in judgements made outside a case decision context. Perhaps, the level of dispersion (within a case decision context) is

[4] While this comparison is not directly related to a hypothesis tested in this study, it has some bearing on the testing of hypotheses $H_0$2a and $H_0$2b. That is, a possible limitation of the study (related to the research design) is that responses in section 2 are affected by subjects anchoring on their responses in section 1. The data suggests little evidence of systematic anchoring throughout the groups.

dependent upon the differing nature of case facts. This view is consistent with Brun and Teigen (1988) where different contexts did not always lead to higher between-subject variability than when the terms are judged outside a decision context.

Of some interest are the judgements concerning 'assured beyond any reasonable doubt' and 'expected beyond any reasonable doubt'. The data indicates auditor subjects interpret 'assured beyond any reasonable doubt' as conveying the higher probability by approximately 10%. This is true in the results from both sections 1 and 2 of the research instrument. Linguistically, the terms differ only through the use of 'assured' or 'expected' as the first word. This linguistic difference could, at least in part, account for the difference in interpretations of each term.

Finally, the data for 'probable' is also of interest. As was highlighted in Table 1, standard setters interpret 'probable' as '... the probability of occurrence is 50% or greater' (Kerr, 1984: p.34) or '... something which is more likely than less likely' (AASB, 1995a: p.97). However, 17 of the 20 auditor subjects in group 2 assign a minimum numerical equivalent in excess of the 50-51% mark (the mean response is approximately 69%). In other words, data for auditor interpretations of 'probable' may have policy implications for Australian standard setting. This will be further examined in testing hypothesis $H_0$2a.

5.3 Control Variables

Before formally testing the hypotheses, this section examines whether results are likely to be sensitive to factors such as subject inexperience or mis-understanding, between-group differences in audit experience or case specificity.

5.3.1 Control Variables: Task Understanding and Experience

In the debriefing section of the research instruments, subjects were asked if they understood all sections of the instrument. All subjects responded affirmatively. Subjects were also asked if they agreed that the judgements/decisions they had been asked to make (concerning the recognition of the financial element) are similar to those

they make in their work environment[5]. Responses were recorded using a seven point Likert scale with '1' meaning 'agree' ranging to '7' meaning 'disagree'. The majority of subjects ie 78.7% (126) responded with '1', 19.3% (31) responded with '2' and the remaining 1.8% (3) responded with '3'.

In Chapter 4, the present study defines an 'experienced auditor' as having a minimum of four years audit experience. As discussed in Chapters 3 and 4, with four years experience, auditor subjects would almost certainly have previously been involved in these types of decisions and be aware of the issues and implications of the decision.

In the data collection process, the present author specifically indicated to potential subjects that subjects with 4 or more years of audit experience were needed to

Table 7a: Audit Experience (Months) - All Groups

Group	Minimum	Maximum	Mean	Std. Deviation
1	60	360	137.4	87.83
2	48	300	122.7	79.23
3	54	468	143.4	101.62
4	48	360	120.9	90.42
5	72	204	113.8	42.37
6	60	384	140.4	94.92
7	48	252	147.6	75.54
8	48	360	109.1	87.78
9	60	210	111	55.76

[5] This question was not included in the instruments completed by group 7 who, as previously discussed in Chapter 4, did not examine the recognition decision process nor consider any cases.

participate in the study. In the debriefing section of the research instrument, subjects were asked to indicate their years of experience. Table 7a contains the data concerning audit experience of subjects and none have less than four years audit experience. Random allocation[6] of twenty subjects to each treatment group results in group 8 having the lowest mean years of experience (ie 9 years) and group 7 the highest (ie 12 years).

Table 7b presents results of independent sample, 2 tailed *t*-tests for between-group differences in audit experience. No significant difference exists at the 5% level.

Table 7b: T-Tests for Between-Group Differences in Audit Experience

Group	2	3	4	5	6	7	8	9
1	t=.56 p=.58	t=-.20 p=.84	t=.59 p=.56	t=1.08 p=.28	t=-.10 p=.91	t=-.39 p=.69	t=1.02 p=.31	t=1.13 p=.26
2		t=.72 p=.47	t=-.07 p=.94	t=.44 p=.66	t=.64 p=.52	t=-1.02 p=.31	t=-.51 p=.61	t=.54 p=.59
3			t=.74 p=.46	t=1.20 p=.24	t=.10 p=.92	t=-.15 p=.88	t=-1.14 p=.26	t=1.25 p=.22
4				t=.32 p=.75	t=-.67 p=.51	t=-1.01 p=.31	t=-.42 p=.67	t=.42 p=.68
5					t=1.14 p=.26	t=-1.74 p=.09	t=-.22 p=.83	t=.18 p=.85
6						t=-.27 p=.79	t=-1.08 p=.28	t=1.19 p=.24
7							t=-1.49 p=.14	t=1.74 p=.09
8								t=-.08 p=.93

[6] As noted in footnotes 11 and 15 of Chapter 4, two subjects were not randomly allocated to treatment groups for reasons previously discussed.

Therefore, all subjects posses a minimum of four years audit experience, have indicated they understood the instrument and tasks therein, and make similar judgements and decision in practice. With no significant difference in the between-group audit experience, the present study concludes that subject inexperience, between-group differences in experience, task complexity and unfamiliarity seem unlikely to be confounding variables.

5.3.2 Control Variables: Case Specificity

As one of their tasks, subjects in all groups review each case[7] and make the first of two judgements in the recognition decision process[8]. This judgement is called 'judgement 1' (discussed in section 3.1) and deals with the likelihood that the financial element will be realised given the circumstances conveyed by case facts.

Table 8a: Case Assessments: Probability of Financial Element Realisation (Judgement 1)

Group	Case 1(%)	Case 2 (%)	Case 3 (%)	Case 4 (%)
1	*m*=72.5;*sd*=19.00	*m*=59.5;*sd*=17.53	*m*=88.8;*sd*=7.84	*m*=95.1;*sd*=3.60
2	*m*=58.2;*sd*=20.53	*m*=43.3;*sd*=23.16	NA	NA
3	*m*=63.9;*sd*=19.17	*m*=53.4;*sd*=22.72	*m*=78.7;*sd*=16.06	*m*=87.8;*sd*=17.66
4	*m*=56.3;*sd*=26.44	*m*=35.7;*sd*=21.66	NA	NA
5	*m*=43.2;*sd*=19.41	*m*=56.2;*sd*=13.94	NA	NA
6	*m*=54.7;*sd*=18.88	*m*=70.5;*sd*=17.06	NA	NA
8	*m*=75.3;*sd*=16.31	*m*=55.7;*sd*=16.00	*m*=85.1;*sd*=13.84	*m*=93.1;*sd*=6.12
9	*m*=58.5;*sd*=12.68	*m*=41.7;*sd*=18.73	NA	NA

Table 8a contains the group means and standard deviations for judgement 1 while Table 8b contains results of within-group, between-case *t*-tests (2 tailed, paired sample) for evidence of contextual differences between the cases. These t-tests confirm that

[7] As discussed in section 4.2, groups 1, 3 and 8 each examine four cases with each case having different facts. Groups 2, 4, 5, 6 and 9 each examine two cases with each having differing facts.

subjects assess the probability of financial element realisation as being significantly different (at the 5% level) in each case. That is, case facts enable subjects to differentiate between cases with respect to the probability of financial element realisation. Therefore, it is reasonable to conclude the decision context in each case is seen as unique and provides assurance that case specificity is not a major concern[9].

Table 8b: T-Tests: Between-Case Assessments of Probability of Financial Element Realisation (Judgement 1)

Group	Case	Case 2	Case 3	Case 4
1	1	t=3.04 p=.007	t=3.66 p=.002	t=5.31 p<.001
	2		t=7.41 p<.001	t=9.02 p<.001
	3			t=3.82 p=.001
2	1	t=2.40 p=.027	NA	NA
3	1	t=2.48 p=.023	t=3.76 p=.001	t=4.17 p=.001
	2		t=9.72 p<.001	t=6.90 p<.001
	3			t=2.14 p=.044
4	1	t=3.66 p=.002	NA	NA
5	1	t=2.18 p=.041	NA	NA
6	1	t=3.12 p=.006	NA	NA
8	1	t=4.69 p<.001	t=3.7 p=.002	t=5.72 p<.001
	2		t=7.47 p<.001	t=10.23 p<.001
	3			t=3.16 p=.005
9	1	t=3.94 p=.001	NA	NA

[8] Except group 7 - they did not examine the recognition process in a case decision context.

[9] Of course, this is not to say that cases used in this study are representative of the entire population of cases in the external financial reporting environment.

5.4 Testing Hypothesis $H_0$1

As discussed in Chapter 2, prior studies on the meaning of 'assured beyond any reasonable doubt' and 'virtually certain' employ within-subject designs. Consequently, subjects in these studies may be sensitised to what is being measured and results contaminated by attendance to incentives such as compliance with authoritative accounting pronouncements.

The first hypothesis in this thesis examines the issue. It tests whether an association exists between experimental design (as the independent variable) and auditor interpretations of probability terms (the dependent variable). Hypothesis $H_0$1 is stated in the null as:

$H_0$1 There is no significant difference between within-group and between-group auditor subject results concerning the meaning of 'virtually certain' and 'assured beyond any reasonable doubt'.

Three groups are involved in testing the hypothesis. Subjects in group 7 quantified, *inter alia,* the meanings conveyed by both 'assured beyond any reasonable doubt' and 'virtually certain' outside a case decision context[10]. For subjects in group 1, their first task was to quantify the meaning of 'assured beyond any reasonable doubt' outside a case decision context. Subjects in group 3 were asked to quantify the meaning of 'virtually certain' outside a case decision context.

Table 9 (shown overleaf) presents descriptive statistics for each of the three groups. In testing for between-group differences in means[11], Seigel suggests that (a) if observations are independent; (b) if observations are drawn from a normally distributed population; (c) if the populations have the same variance; and (d) if variables involved

[10] For reasons discussed at 4.1, subjects in group 7 quantified the meaning of six probability terms, including 'assured beyond any reasonable doubt' and 'virtually certain', outside a case decision context. This replicates previous studies such as Patel (1991) and McCarthy and Mirza (1994).

[11] The graphs in Tables 2, 3 and 5 indicated a fairly even number of responses are distributed either side of the mean. Additionally, for most (although not all) of the terms, the mean is representative of the majority of interpretations. Consequently, the mean is the preferred measure of central tendency for the purposes of hypothesis testing.

Table 9: Descriptive Statistics - Groups 1, 3 and 7 Interpretations

Expression Interpreted	Group	Mean	Median	Minimum	Maximum	Std. Deviation
Assured Beyond Any Reasonable Doubt	1*	96.25%	95%	85%	100%	3.79%
	7**	88%	90%	80%	95%	5.71%
Virtually Certain	3*	88.3%	90%	70%	99%	8.48%
	7**	93.5%	95%	80%	100%	6.35%

* Between-subject design auditor groups ** Within-subject design auditor group.

are in at least an interval scale, the most powerful parametric test for differences in measures of central tendency is the *t*-test for equality of means (1956: p126). Since (a) the observations for each group are randomly drawn independent samples from the one population (ie Australian auditors with at least four year audit experience); (b) it is assumed the population is normally distributed; and (c) the variable represents meaning measured on a numerical scale of 0-100%, the *t*-test is appropriate for statistically testing hypothesis $H_0 1$.

Table 10 presents results of 2-tailed independent sample *t*-tests between groups 1 and 7 and between groups 3 and 7. Auditor interpretations of both 'virtually certain' and 'assured beyond any reasonable doubt' in the between-groups design are significantly different to those obtained in the within-group design. Therefore, results support rejection of hypothesis $H_0 1$.

The direct testing of hypothesis $H_0 1$ relies on a comparison of the quantitative meaning between the groups in the research designs. However, it is also important to note (a) the difference between the meaning of each term within research designs and (b) the direction of that difference. Doing so adds richness to the discussion of

Table 10: Independent Sample T- tests Between Groups 1, 3 and 7

	Group 7: Virtually Certain (Within-Subject Design) $m = 93.5\%$ $sd = 6.35\%$	**Group 1: Assured Beyond Any Reasonable Doubt (Between-Subject Design)** $m = 96.25\%$ $sd = 3.79\%$
Group 7: Assured Beyond Any Reasonable Doubt (Within-Subject Design) $m = 88\%$ $sd = 5.71\%$	NA	$t = 5.38$ $p = .001$
Group 3: Virtually Certain (Between-Subject Design) $m = 88.3\%$ $sd = 8.48\%$	$t = 2.19$ $p = .034$	NA

results. In the within-subject design, auditor subjects in group 7 quantified 'virtually certain' as conveying a probability that is significantly higher than 'assured beyond any reasonable doubt' (t=3.24, p=.004 (paired sample t-test). Results in the between-subject design were also significant *but in the opposite direction.* That is, auditor subjects quantified 'assured beyond any reasonable doubt' as conveying a significantly higher probability than 'virtually certain' (t=3.82, p=.001).

What then is the reason for the distinct difference in the direction of the results within each of the research designs? Subjects within group 7 were required to interpret both terms and it would be apparent that the relative meaning of the two terms might be analysed. Standard setters and regulators have issued a number of pronouncements about the relative meaning of the two terms. Subjects in group 7 may be aware of, and sensitive to this in their interpretations. This could explain why it is only their responses that are consistent with authoritative accounting pronouncements issued by standard setters and regulators.

While it is not certain that compliance with regulatory pronouncements is attended to in the within-group design, it is a plausible reason for, and consistent with, the observed results. Whatever the reason, in this thesis, an association exists between experimental design and auditor interpretations of probability terms. These results cast doubt over the external validity of results reported in previous studies that use a

within-subject design to examine the meaning of 'virtually certain' and 'assured beyond any reasonable doubt'. Importantly, these results also support adoption of a between-group design in testing the other hypotheses in this thesis.

5.5 Testing Hypotheses $H_0$2a and $H_0$2b

Hypothesis $H_0$2a tests whether auditors and standard setters share quantitative meaning with respect to the term 'probable'. Hypothesis $H_0$2b tests whether auditors and the regulator share quantitative meaning with respect to phrase 'virtually certain'. For reasons discussed in section 2.11, a sharing of meaning is not expected to exist in either case and the null hypotheses are:

$H_0$2a: There is no significant difference between the quantitative meaning held by auditors and standard setters with respect to the term 'probable' used in financial statement element recognition criteria.

$H_0$2b: There is no significant difference between the quantitative meaning held by auditors and the regulator with respect to the term 'virtually certain' used in financial statement element recognition criteria.

Two auditor groups (groups 2 and 3) are involved in testing $H_0$2a and $H_0$2b. Subjects in each group made financial element recognition decisions in the context of real albeit disguised cases. Part of the decision process requires a judgement on the meaning of one probability term as the test to be met for recognition. Table 11 contains the mean numerical interpretations for these judgements in each case. As previously noted,

Table 11: Auditor Interpretation of Probability Terms in Case Decision Context

Auditor Subject Group	Case 1	Case 2	Case 3	Case 4
Group 2 'Probable'	*M*=68.85% *sd*=10.43%	*M*=69.60% *sd*=11.39%	NA	NA
Group 3 'Virtually Certain'	*M*=88.40% *sd*=7.81%	*M*=86.70% *sd*=9.28%	*M*=88.15% *sd*=7.67%	*M*=87.65% *sd*=7.86%

standard setters quantify 'probable' as meaning 50% (or greater). Using a single sample, 1 tailed *t*-test between group 2's interpretations and a test value of 50%, a significant difference exists between standard setter (the test value) and auditor subjects' quantifications in each case: case 1 (t=7.65 p<.001); case 2 (t=7.30 p<.001). Only when the test value exceeds 65% does the difference between it and the auditor subject interpretations cease to be significant at the 5% level. Therefore, in the context of cases examined, auditor subjects do not share meaning with standard setters about the minimum quantitative equivalent of 'probable' and hypothesis $H_0$2a is rejected.

The regulator interprets 'virtually certain' as meaning something greater than 95%. Again, using a single sample, 1 tailed *t*-test between group 3's interpretations and a test value of 95%, a significant difference exists, in each case, between the regulator (ie the test value) and auditor subjects' quantifications. Results in each case are: case 1 (t=3.78 p<.001); case 2 (t=4.00 p<.001); case 3 (t=3.99 p<.001); case 4 (t=4.18 p<.001). It is not until the test value is ≤ 89% that the difference between it and the auditor subject interpretations ceases to be significant at the 5% level. Clearly, in the context of the cases examined, auditor subjects do not share meaning with the regulator about the minimum quantitative equivalent of 'virtually certain' and the study also rejects hypothesis $H_0$2b.

5.6 Testing Hypotheses $H_0$3a and $H_0$3b

Hypotheses $H_0$3a and $H_0$3b test whether auditors share relative meaning with either standard setters or the regulator concerning the six probability terms examined in this thesis. In the null, the hypotheses are:

$H_0$3a: There is no significant difference between the relative meaning held by auditors and that held by standard setters with respect to the probability terms used in financial statement element recognition criteria.

$H_0$3b: There is no significant difference between the relative meaning held by auditors and that held by the regulator with respect to the probability terms used in financial statement element recognition criteria.

Auditor subject groups 1-6 are involved in testing hypotheses $H_0$3a and $H_0$3b. Subjects in each group made financial element recognition decisions in case decision contexts. As previously discussed, part of that process requires a judgement on the minimum quantitative equivalent of one probability term ie the 'test' of recognition. In the following sub-sections, tables 12a-o present the mean minimum quantitative equivalent in each case for each term examined by the auditor subject groups. Additionally, each table contains results of independent sample, 2 tailed *t*-tests between the auditor subject group means in case by case comparisons. This establishes the relative meaning of the six terms. This relative meaning can then be compared with that held by standard setters (to test $H_0$3a) and the regulator (to test $H_0$3b).

5.6.1 Testing Hypotheses $H_0$3a and $H_0$3b: Group 1 versus Group 2

Table 12a lists results for *t*-tests between group 1 and 2's interpretations of 'assured beyond any reasonable doubt' and 'probable' respectively. Significant differences exist

Table 12a: Results of *t*-test Between Groups 1 and 2

	Group 1: 'Assured Beyond Any Reasonable Doubt'			
Group 2: 'Probable'	**Case 1** *m*=95.5% *sd*=4.15%	**Case 2** *m*=95.8% *sd*=3.27%	**Case 3** *m*=95.25% *sd*=3.67%	**Case 4** *m*=95.95% *sd*=3.28%
Case 1 *m*=69.85% *sd*=10.43%	*t*=10.16 *p*<.001	*t*=10.96 *p*<.001	*t*=10.18 *p*<.001	*t*=10.87 *p*<.001
Case 2 *m*=69.6% *sd*=11.39%	*t*=9.18 *p*<.001	*t*=9.79 *p*<.001	*t*=9.19 *p*<.001	*t*=9.73 *p*<.001

across all comparisons. For the auditor subjects, 'assured beyond any reasonable doubt' conveys a higher numerical probability than 'probable'. This is not dissimilar to the relative meaning held by both standard setters and the regulator. Consequently, results do not support rejecting hypotheses $H_0$3a or $H_0$3b[12].

[12] However, as previously discussed, $H_0$2a was rejected in auditor /standard setter comparison on the quantitative meaning of 'probable'.

5.6.2 Testing Hypotheses $H_0$3a and $H_0$3b: Group 1 versus Group 3

Table 12b contains results of *t*-tests between the auditor subject interpretations of 'assured beyond any reasonable doubt' and 'virtually certain'. Significant between-group differences exist in all comparisons with 'assured beyond any reasonable doubt' conveying higher degrees of certainty than 'virtually certain'. The results for groups 1 and 3 contrast with the relative meaning held both by standard setters and the regulator. That is, both the aforementioned believe 'virtually certain' conveys a higher level of certainty than 'assured beyond any reasonable doubt'. For auditor subjects, the opposite is true. Therefore, hypotheses $H_0$3a and $H_0$3b are rejected.

Table 12b: Results of *t*-tests Between Groups 1 and 3

	Group 1: 'Assured Beyond Any Reasonable Doubt'			
Group 3: 'Virtually Certain'	**Case 1** *m*=95.5% *sd*=4.15%	**Case 2** *m*=95.8% *sd*=3.27%	**Case 3** *m*=95.25% *sd*=3.67%	**Case 4** *m*=95.95% *sd*=3.28%
Case 1 *m*=88.4% *sd*=7.81%	*t*=3.59 *p*=.001	*t*=4.15 *p*=.001	*t*=3.46 *p*=.003	*t*=4.22 *p*<.001
Case 2 *m*=86.7% *sd*=9.28%	*t*=3.70 *p*=.002	*t*=4.13 *p*<.001	*t*=3.55 *p*=.002	*t*=4.15 *p*=.001
Case 3 *m*=88.15% *sd*=7.67%	*t*=3.80 *p*=.001	*t*=4.35 *p*<.001	*t*=3.73 *p*=.001	*t*=4.42 *p*<.001
Case 4 *m*=87.65% *sd*=7.86%	*t*=4.30 *p*<.001	*t*=4.99 *p*<.001	*t*=4.10 *p*=.001	*t*=4.35 *p*<.001

5.6.3 Testing Hypotheses $H_0$3a: Group 1 versus Group 4

Table 12c contains results of *t*-tests between group 1's interpretation of 'assured beyond any reasonable doubt' and group 4's interpretation of 'foreseeable'. Between-group differences are significant across all comparisons. For auditor subjects, 'assured beyond

Table 12c: Results of *t*-tests Between Groups 1 and 4

	Group 1: 'Assured Beyond Any Reasonable Doubt'			
Group 4: 'Foreseeable'	**Case 1** *m*=95.5% *sd*=4.15%	**Case 2** *m*=95.8% *sd*=3.27%	**Case 3** *m*=95.25% *sd*=3.67%	**Case 4** *m*=95.95% *sd*=3.28%
Case 1 *M*=59.05% *sd*=20.21%	*t*=7.55 *p*<.001	*t*=7.96 *p*<.001	*t*=7.68 *p*<.001	*t*=8.09 *p*<.001
Case 2 *M*=58.55% *sd*=20.05%	*t*=7.67 *p*<.001	*t*=8.10 *p*<.001	*t*=7.80 *p*<.001	*t*=8.23 *p*<.001

any reasonable doubt' conveys a higher minimum quantitative probability than 'foreseeable'. This interpretation is consistent with standard setters[13] and hypothesis $H_0$3a is not rejected in this case.

5.6.4 Testing Hypothesis $H_0$3a: Group 1 versus Group 5

Table 12d presents results of *t*-tests between groups 1 and 5's interpretations of 'assured beyond any reasonable doubt' and 'expected beyond any reasonable doubt' respectively.

Table 12d: Results of *t*-test Between Groups 1 and 5

	Group 1: 'Assured Beyond Any Reasonable Doubt'			
Group 5: 'Expected Beyond Any Reasonable Doubt'	**Case 1** *m*=95.5% *sd*=4.15%	**Case 2** *m*=95.8% *sd*=3.27%	**Case 3** *m*=95.25% *sd*=3.67%	**Case 4** *m*=95.95% *sd*=3.28%
Case 1 *m*=85.75% *sd*=6.93%	*t*=5.00 *p*<.001	*t*=5.77 *p*<.001	*t*=5.42 *p*<.001	*t*=5.70 *p*<.001
Case 2 *m*=84.5% *sd*=7.05%	*t*=5.26 *p*<.001	*t*=5.99 *p*<.001	*t*=5.61 *p*<.001	*t*=5.94 *p*<.001

[13] As the regulator has not announced the relative meaning of these terms, $H_0$3b is not applicable.

Between-group differences are significant across all comparisons. Auditor subjects interpret 'assured beyond any reasonable doubt' as meaning a higher minimum degree of certainty than 'expected beyond any reasonable doubt'. Standard setters share a similar interpretation[14] and hypothesis $H_0$3a is not rejected in this case.

5.6.5 Testing Hypothesis $H_0$3a: Group 1 versus Group 6

Table 12e contains results of *t*-tests between group 1 who interpreted 'assured beyond any reasonable doubt' and group 6 who interpreted 'expected'. Significant between-group differences exist across all comparisons. For auditor subjects, 'assured beyond any reasonable doubt' conveys a significantly greater level of certainty than 'expected'.

Table 12e: Results of *t*-test Between Groups 1 and 6

	Group 1: 'Assured Beyond Any Reasonable Doubt'			
Group 6: 'Expected'	**Case 1** *m*=95.5% *sd*=4.15%	**Case 2** *m*=95.8% *sd*=3.27%	**Case 3** *m*=95.25% *sd*=3.67%	**Case 4** *m*=95.95% *sd*=3.28%
Case 1 *m*=67.55% *sd*=14.40%	*t*=7.78 *p*<.001	*t*=8.62 *p*<.001	*t*=8.32 *p*<.001	*t*=8.55 *p*<.001
Case 2 *m*=67.55% *sd*=15.79%	*t*=7.19 *p*<.001	*t*=7.85 *p*<.001	*t*=7.60 *p*<.001	*t*=7.80 *p*<.001

As with the previous comparison, the interpretation is not dissimilar to that held by standard setters[15]. Therefore, the study does not reject hypothesis $H_0$3a.

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[14] As the regulator has not announced the relative meaning of these terms, $H_0$3b is not applicable.

[15] See footnote 14.

5.6.6 Testing Hypotheses $H_0$3a and $H_0$3b: Group 2 versus Group 3

Table 12f presents results of *t*-tests between the meaning of 'probable' and 'virtually certain' for groups 2 and 3 respectively. Significant between-group differences exist across all comparisons. For auditor subjects, 'probable' conveys a significantly lower

Table 12f: Results of *t*-tests Between Groups 2 and 3

	Group 3: 'Virtually Certain'			
Group 2: 'Probable'	**Case 1** *m*=88.4% *sd*=7.81%	**Case 2** *m*=86.7% *sd*=9.28%	**Case 3** *m*=88.15% *sd*=7.67%	**Case 4** *m*=87.65% *sd*=7.86%
Case 1 *m*=69.85% *sd*=10.43%	*t*=6.75 *p*<.001	*t*=6.01 *p*<.001	*t*=7.01 *p*<.001	*t*=6.81 *p*<.001
Case 2 *m*=69.6% *sd*=11.39%	*t*=5.92 *p*<.001	*t*=5.30 *p*<.001	*t*=6.15 *p*<.001	*t*=5.93 *p*<.001

degree of certainty than 'virtually certain'. As discussed in Chapter 2, the regulator and standard setters share a similar *relative* interpretation. Therefore, results do not support rejecting hypotheses $H_0$3a or $H_0$3b in this comparison.

5.6.7 Testing Hypotheses $H_0$3a and $H_0$3b: Group 2 versus Group 4

Table 12g contains *t*-tests results for interpretations by groups 2 and 4 about 'probable' and 'foreseeable' respectively. In case 1 by case 1 interpretations, the between-group difference is not significant at the 5% level (t=1.93, p=.062). However, between-group differences are significant across all other comparisons. That is, for auditor subjects, 'probable' conveys a significantly higher level of certainty than 'foreseeable'.

Table 12g: Results of *t*-tests Between Groups 2 and 4

	Group 4: 'Foreseeable'	
Group 2: 'Probable'	**Case 1** *m*=59.05% *sd*=20.21%	**Case 2** *m*=58.55% *sd*=20.05%
Case 1 *m*=68.85% *sd*=10.43%	*t*=1.93 *p*=.062	*t*=2.03 *p*=.049
Case 2 *m*=69.6% *sd*=11.39%	*t*=2.04 *p*=.049	*t*=2.14 *p*<.040

As discussed in Chapter 2, standard setters use 'probable' and 'foreseeable' as synonyms. On the other hand, the regulator believes the terms convey dissimilar levels of certainty (with the direction of difference not stated). For auditor subjects' interpretations, the 'confusion' between standard setters and the regulator appears to carry through. In the between-group case 1 by case 1 comparison, auditor subjects do not share meaning with the regulator. For all other case by case between-group comparisons, auditor subjects do not share meaning with standard setters.

It could be inferred then, dependent upon the case, auditors may or may not share meaning with the standard setters or regulator. However, as was discussed in Chapter 2, irrespective of the relative meaning, both standard setters and the regulator hold a relative meaning that remains constant across differing contexts. It is because of this that, in the context of cases examined, rejecting both $H_0$3a and $H_0$3b is appropriate since, for auditor subjects, the relative meaning of the two terms is not significantly different in some cases yet is significantly different in other cases.

5.6.8 Testing Hypotheses $H_0$3a and $H_0$3b: Group 2 versus Group 5

Table 12h contains the results of *t*-tests between groups 2 and 5 interpretations of 'probable' and 'expected beyond any reasonable doubt' respectively. Significant between-group differences exist across all comparisons. For the auditor subjects, and in

Table 12h: Results of *t*-tests Between Groups 2 and 5

	Group 5: 'Expected Beyond Any Reasonable Doubt'	
Group 2: 'Probable'	**Case 1** *m*=85.75% *sd*=6.93%	**Case 2** *m*=84.5% *sd*=7.05%
Case 1 *m*=69.85% *sd*=10.43%	*t*=6.15 *p*<.001	*t*=6.30 *p*<.001
Case 2 *m*=69.6% *sd*=11.39%	*t*=5.37 *p*<.001	*t*=5.41 *p*<.001

each case, 'probable' conveys significantly lower levels of certainty than 'expected beyond any reasonable doubt'. Given the clear wording difference between the terms, and the use of 'beyond any reasonable doubt' in the legal domain, results are as expected. The auditor subject meaning clearly contrasts with that held by standard setters but is not dissimilar to the meaning held by the regulator. Therefore, only rejection of $H_0$3a is supported.

5.6.9 Testing Hypotheses $H_0$3a and $H_0$3b: Group 2 versus Group 6

Table 12i contains results for *t*-tests between the meaning of 'probable' and 'expected' for groups 2 and 6 respectively. The means for each group are not dissimilar and dispersion around both means is high (relative to dispersion for terms such as 'assured beyond any reasonable doubt'). It follows that, between-group differences are not significant in any comparison. Since accounting standards interchange the terms, standard setters and auditors appear to share relative meaning and the study does not reject $H_0$3a. However, the regulator attaches dissimilar meanings to the two terms (as discussed in Chapter 2 the direction of the difference is not stated). Therefore, in the context of the cases examined, and in the absence of a significant difference in any direction, auditors and the regulator do not share relative meaning and it is appropriate to reject $H_0$3b.

Table 12i: Results of *t*-tests Between Groups 2 and 6

	Group 6: 'Expected'	
Group 2: 'Probable'	**Case 1** *m*=67.55% *sd*=14.40%	**Case 2** *m*=67.55% *sd*=15.80%
Case 1 *m*=69.85% *sd*=10.43%	*t*=.33 *p*=.743	*t*=.29 *p*=.775
Case 2 *m*=69.6% *sd*=11.39%	*t*=.50 *p*=.624	*t*=.43 *p*=.671

5.6.10 Testing Hypothesis $H_0$3a: Group 3 versus Group 4

Table 12j presents the results of *t*-tests between group 3's interpretation of 'virtually certain' and group 4's interpretation 'foreseeable'. For auditor subjects, 'virtually certain' connotes a significantly higher degree of certainty than 'foreseeable' across

Table 12j: Results of *t*-tests Between Groups 3 and 4

	Group 3: 'Virtually Certain'			
Group 4: 'Foreseeable'	**Case 1** *m*=88.4% *sd*=7.81%	**Case 2** *m*=86.7% *sd*=9.28%	**Case 3** *m*=88.15% *sd*=7.67%	**Case 4** *m*=87.65% *sd*=7.86%
Case 1 *m*=59.05% *sd*=20.21%	*t*=6.16 *p*<.001	*t*=5.83 *p*<.001	*t*=6.15 *p*<.001	*t*=6.09 *p*<.001
Case 2 *m*=58.55% *sd*=20.05%	*t*=6.37 *p*<.001	*t*=6.10 *p*<.001	*t*=6.36 *p*<.001	*t*=6.30 *p*<.001

all comparisons. This is consistent with the meaning held by standard setters. That is, for standard setters, 'foreseeable' and 'probable' are interchangeable and 'virtually certain' conveys a higher probability than 'probable'. Implicitly then, standard setters

interpret 'virtually certain' as conveying a higher probability than 'foreseeable'. Therefore, results do not support rejecting $H_0$3a[16].

5.6.11 Testing Hypothesis $H_0$3a: Group 3 versus Group 5

As discussed in the previous section, for standard setters, 'virtually certain' connotes a higher degree of certainty than 'probable'. Additionally, standard setters use 'probable' and 'expected beyond any reasonable doubt' as synonyms. It follows then that, for standard setters, 'virtually certain' conveys higher degrees of certainty than 'expected beyond any reasonable doubt'. For auditor subjects, this is not the case. Table 12k

Table 12k: Results of *t*-tests Between Groups 3 and 5

	Group 3: 'Virtually Certain'			
Group 5: 'Expected Beyond Any Reasonable Doubt'	**Case 1** *m*=88.4% *sd*=7.81%	**Case 2** *m*=86.7% *sd*=9.28%	**Case 3** *m*=88.15% *sd*=7.67%	**Case 4** *m*=87.65% *sd*=7.86%
Case 1 *m*=85.75% *sd*=6.93%	*t*=1.13 *p*=.264	*t*=.37 *p*=.716	*t*=1.04 *p*=.306	*t*=.81 *p*=.423
Case 2 *m*=84.5% *sd*=7.05%	*t*=1.66 *p*.106	*t*=.84 *p*<.404	*t*=1.57 *p*=.126	*t*=1.33 *p*=.190

presents results of *t*-tests between the meaning held by groups 3 and 5 for 'virtually certain' and 'expected beyond any reasonable doubt' respectively. Differences between the groups are not significant in any comparison. Therefore, auditors and standard setters do not share relative meaning and the study rejects hypothesis $H_0$3a[17].

5.6.12 Testing Hypothesis $H_0$3a: Group 3 versus Group 6

In accounting standards, the terms 'probable' and 'expected' are used interchangeably. Since standard setters interpret 'probable' as conveying lower levels of certainty than

[16] As the regulator has not announced the relative meaning of these terms, $H_0$3b is not applicable.

[17] As the regulator has not announced the relative meaning of these terms, $H_0$3b is not applicable.

Table 12l: Results of *t*-tests Between Groups 3 and 6

	Group 3: 'Virtually Certain'			
Group 6: 'Expected'	**Case 1** *m*=88.4% *sd*=7.81%	**Case 2** *m*=86.7% *sd*=9.28%	**Case 3** *m*=88.15% *sd*=7.67%	**Case 4** *m*=87.65% *sd*=7.86%
Case 1 *m*=67.55% *sd*=14.40%	*t*=5.69 *p*<.001	*t*=5.00 *p*<.001	*t*=5.65 *p*<.001	*t*=5.48 *p*<.001
Case 2 *m*=67.55% *sd*=15.79%	*t*=5.29 *p*<.001	*t*=4.67 *p*<.001	*t*=5.25 *p*<.001	*t*=5.09 *p*<.001

'virtually certain', they must also interpret 'expected' as conveying lower degrees of certainty than 'virtually certain'. Auditor subjects share this relative meaning. T-tests between the relevant auditor group interpretations (in Table 12l) show 'expected' conveys significantly lower degrees of certainty than 'virtually certain' across all comparisons. Therefore, rejection of hypothesis $H_0$3a is not supported [18].

5.6.13 Testing Hypothesis $H_0$3a: Group 4 versus Group 5

Table 12m presents the results of *t*-tests between the meanings of 'foreseeable' and 'expected beyond any reasonable doubt' for groups 4 and 5 respectively. In all comparisons the between-group differences are significant. That is, for the auditor subjects, 'expected beyond any reasonable doubt' conveys significantly higher levels of certainty than 'foreseeable'. Since standard setters interpret both terms as conveying similar levels of certainty[19], $H_0$3a is rejected.

[18] As the regulator has not announced the relative meaning of these terms, $H_0$3b is not applicable.

[19] As the regulator has not announced the relative meaning of these terms, $H_0$3b is not applicable.

Table 12m: Results of *t*-tests Between Groups 4 and 5

	Group 4: 'Foreseeable'	
Group 5: 'Expected Beyond Any Reasonable Doubt'	**Case 1** *m*=59.05% *sd*=20.21%	**Case 2** *m*=58.55% *sd*=20.05%
Case 1 *m*=85.75% *sd*=6.93%	*t*=5.62 *p*<.001	*t*=5.84 *p*<.001
Case 2 *m*=84.5% *sd*=7.05%	*t*=5.43 *p*<.001	*t*=5.64 *p*<.001

5.6.14 Testing Hypothesis $H_0$3a: Group 4 versus Group 6

Table 12n presents the results of *t*-tests between the meanings of 'foreseeable', and 'expected' for groups 4 and 6 respectively. All case by case comparisons show

Table 12n: Results of *t*-tests Between Groups 4 and 6

	Group 4: 'Foreseeable'	
Group 6: 'Expected'	**Case 1** *m*=59.05% *sd*=20.21%	**Case 2** *m*=58.55% *sd*=20.05%
Case 1 *m*=67.55% *sd*=14.40%	*t*=1.53 *p*=.134	*t*=1.63 *p*=.111
Case 2 *m*=67.55% *sd*=15.79%	*t*=1.48 *p*=.147	*t*=1.58 *p*=.123

between-group differences are not significant. Since standard setters interpret both terms as conveying similar levels of certainty[20], $H_0$3a is not rejected.

[20] As the regulator has not announced the relative meaning of these terms, $H_0$3b is not applicable.

5.6.15 Testing Hypothesis $H_0$3a: Group 5 versus Group 6

Table 12o presents the results of *t*-tests between the meanings of 'expected beyond any reasonable doubt' and 'expected' for groups 5 and 6 respectively. In all case by case comparisons, the between-group differences are significant. That is, for auditor subjects, 'expected beyond any reasonable doubt' conveys significantly higher levels of certainty than 'expected'. Since standard setters interpret the terms as conveying similar levels of certainty[21] $H_0$3a is rejected in these comparisons.

Table 12o: Results of *t*-tests Between Groups 5 and 6

	Group 5: 'Expected Beyond Any Reasonable Doubt'	
Group 6: 'Expected'	**Case 1** *m*=85.75% *sd*=6.93%	**Case 2** *m*=84.5% *sd*=7.05%
Case 1 *m*=67.55% *sd*=14.40%	*t*=5.48 *p*<.001	*t*=5.55 *p*<.001
Case 2 *m*=67.55% *sd*=15.79%	t=5.07 *p*<.001	*t*=5.13 *p*<.001

5.7 Summary: Testing Hypotheses $H_0$1, $H_0$2a, $H_0$2b, $H_0$3a and $H_0$3b

The first hypothesis tested whether an association exists between experimental design (ie between-subject versus within-subject) and auditor interpretations of the terms 'virtually certain' and 'assured beyond any reasonable doubt'. Results indicate an association does exist and the study rejects the null hypothesis $H_0$1. A plausible reason for the association is that compliance with regulatory pronouncements is attended to by subjects in the within-subject design. However, other reasons for the association may also exist. Not withstanding this, rejection of $H_0$1 does cast doubt over the internal validity of previous studies using a within-subject design. Further, rejection of $H_0$1 supports the use of a between-subject design in testing the other hypotheses in this thesis.

[21] As the regulator has not announced the relative meaning of these terms, $H_0$3b is not applicable.

The second and third hypotheses address the question of shared meaning between auditor subjects, Australian standard setters and the corporate regulator. It was not expected that the meaning of all six probability terms would be shared. This was tested in two ways. Firstly, by comparing the quantitative meaning (ie the minimum numerical equivalent) as held by auditor subjects, with that held by standard setters (testing $H_0$2a) and the regulator (testing $H_0$2b). Secondly, by comparing the relative meaning of two terms, as held by auditor subjects, with the relative meaning held by standard setters (testing $H_0$3a) and the regulator (testing $H_0$3b).

Analytic review (in Chapter 2) reveals: (a) for standard setters, 'probable' means something that is 50% or greater; and (b) for the regulator, 'virtually certain' means something greater than 95%. Single sample *t*-tests between the aforementioned percentages and auditor subject interpretations reveals significant differences at the 5% level in both instances. Note that, the results for auditor subjects do not necessarily represent generalizable measures of meaning because they are inherently context dependent. Nevertheless, in the context of cases examined, auditor subjects do not share quantitative meaning with standard setters about the minimum numerical equivalent of 'probable' or share quantitative meaning with the regulator about the minimum numerical equivalent of 'virtually certain' and hypotheses $H_0$2a and $H_0$2b are rejected.

While interpretations made by auditor subjects are inherently context dependent, they do represent a measure of connotative meaning. As noted by Amer et al (1994: p.130), the also facilitate comparisons of *relative* meaning as conducted in this thesis[22]. Results in the present study indicate auditor subjects and standard setters do not share meaning with respect to the relative meaning of:

(a) 'Assured beyond any reasonable doubt' and 'virtually certain' (see Sec. 5.6.2);

(b) 'Probable' and 'foreseeable' (see Sec. 5.6.7);

(c) 'Probable' and 'expected beyond any reasonable doubt' (see Sec. 5.6.8);

(d) 'Expected beyond any reasonable doubt' and 'virtually certain' (see Sec. 5.6.11);

(e) 'Expected beyond any reasonable doubt' and 'foreseeable' (see Sec. 5.6.13); and

(f) 'Expected beyond any reasonable doubt' and 'expected' (see Sec. 5.6.15);

Information about the relative meaning of all six terms, as held by the regulator, is not available. Consequently, it is impossible to compare the regulator's relative interpretations with that of auditor subjects in some instances. However, where the regulator's position is clear, comparisons with the relative meaning held by auditor subjects reveal the two do not share relative meaning with respect to:

(a) 'Assured beyond any reasonable doubt' and 'virtually certain' (see Sec. 5.6.2);

(b) 'Probable' and 'foreseeable' (see Sec. 5.6.7); and

(c) 'Probable' and 'expected' (see Sec. 5.6.9).

Therefore, there is considerable evidence that the auditor subjects do not always share meaning with either standard setters or the regulator. Given hypotheses $H_0$3a and $H_0$3b question the sharing of relative meaning in all instances examined, it is appropriate to reject both the aforementioned null hypotheses.

As will be discussed in the concluding chapter (Chapter Seven), the results have significant policy implications for the standard setting and regulatory process. Additionally, they raise questions about the recognition decision process and the part these judgements play in that process. Some of these questions are addressed in this thesis and tested in the following chapter (Chapter Six). Others represent opportunities for further research and these are discussed in Chapter Seven.

[22] Remembering that, for both standard setters and the regulator, the relative meaning of probability terms used in recognition criteria remains constant irrespective of context.

CHAPTER 6

DATA ANALYSIS AND RESULTS: HYPOTHESES $H_0$4 - $H_0$6

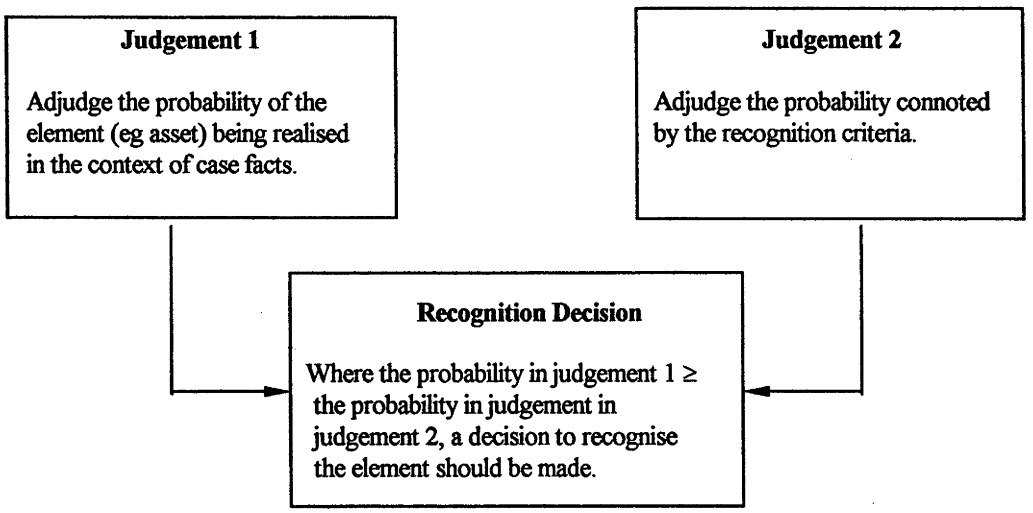
6.0 Objectives and Structure of Chapter 6

As previously noted, the hypotheses in this thesis can be divided into two categories. The previous chapter examined the first category (hypotheses $H_0$1 - $H_0$3b) which examine the meaning of selected recognition criteria[1]. This chapter's principal objective is to examine the second category being the application of selected recognition criteria. In doing so, it tests hypotheses $H_0$4 - $H_0$6. The chapter is structured as follows. Section 6.1 revisits the decision process prescribed in the selected recognition criteria. Section 6.2 reiterates the research designs for $H_0$4 - $H_0$6. Section 6.3 presents descriptive statistics and tests hypothesis $H_0$4. Sections 6.4 and 6.5 repeat this process for hypotheses $H_0$5 and $H_0$6 respectively. Finally, section 6.6 presents a summary of the chapter.

6.1 The Recognition Decision Process

Chapter Three examined the financial element recognition decision process and Figure 1 shows that process as prescribed in the selected recognition criteria. It has

Figure 1: Prescribed Recognition Decision Process



[1] Ho1 tests for an association between research design and the meaning of probability terms; Ho2a and Ho2b test for differences in the quantitative meaning of probability terms held by auditors vs. standard and auditors vs. the regulator respectively; Ho3a and Ho3b test for differences in the relative meanings of probability terms held by auditors vs. standard setters and auditors vs. the regulator respectively.

two central elements (about which both standard setters and the regulator seem to share a mutual understanding - refer section 3.2):

(a) The decision outcome should be dependent upon a comparison between the results of two judgements. That is, the probability of financial element realisation (judgement 1) and the probability connoted by the recognition criteria (judgement 2). The latter is the test for recognition and judgement 1 must equal or exceed judgement 2 for recognition to occur;

(b) The process assumes that the meaning of the recognition criteria (that is, judgement 2) remains constant across differing contexts.

Prior research provides minimal evidence about if and when auditors actually use the process described in part (a) above. Secondly, no reported study appears to have addressed the possible effects of regulatory monitoring on the constancy of judgement 2 (part b above) assumed to exist by standard setters and regulators. Consequently, this study examines both these questions and, in so doing, tests hypotheses $H_0$4 - $H_0$6. The research design for each hypothesis is summarised in the following section.

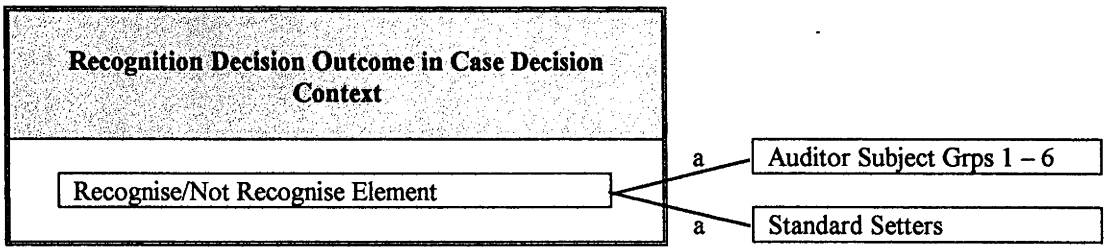
6.2 Summary of Research Designs: Hypotheses $H_0$4 - $H_0$6

This section is divided into three parts. Section 6.2.1 examines the research design used in testing hypothesis $H_0$4. Section 6.2.2 examines the research design used in testing hypothesis $H_0$5. Finally, section 6.2.3 examines the research design used to test hypothesis $H_0$6.

6.2.1 Summary of Research Design: Hypothesis $H_0$4

Figure 2 shows the research design associated with testing the fourth hypothesis. It specifically examines the first of the two central elements in the recognition decision process. That is, whether the auditor subjects' decisions are a function of, and dependent upon, a comparison between the results of the probability of financial element realisation (judgement 1) and the probability connoted by the recognition criteria (judgement 2). More succinctly, whether results in judgement 2 are used as

Figure 2: Research Design - Hypothesis $H_0$4



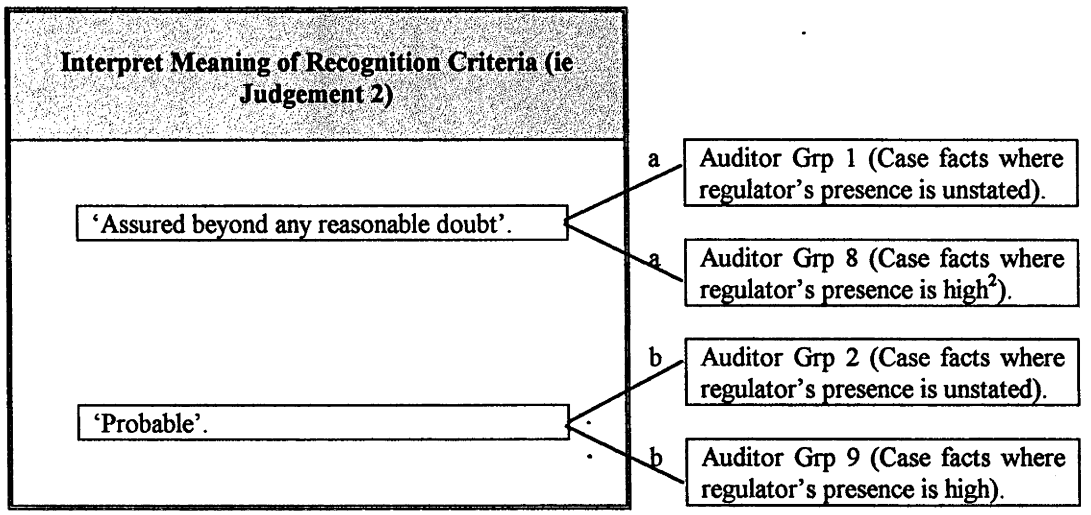
a test for recognition/non-recognition as required in prescribed process. For reasons discussed in Chapter 3, it is expected that auditors may not use the prescribed process in all circumstances.

To test the hypothesis, judgements 1, 2 and the decision made by auditor subjects in each treatment group are analysed. As illustrated by line (a) in Figure 2, the decisions made by auditor subjects are then compared with the decisions that should occur under the prescribed process (given the results of judgement 1 and 2). In this way it is possible to determine whether auditor subjects use a decision process that is consistent with that prescribed by standard setters. For example, assume an auditor's judgement 1 ≥ judgement 2. If they elect to recognise the element, it is consistent with the decision that should occur under the process prescribed by standard setters. Likewise, where an auditor's judgement 1< their judgement 2, not recognising the element is consistent with the decision that should occur under the prescribed process. However, where an auditor recognises a financial element despite judgement 1 < judgement 2, it is inconsistent with use of the prescribed decision process. The same conclusion can be drawn where auditors decide to not recognise the element despite judgement 1 ≥ the test within the recognition criteria (ie judgement 2).

6.2.2 Summary of Research Design: Hypothesis $H_0$5

The fifth hypothesis in this study examines the second key element in the model decision process. That is, whether judgement 2 (ie the meaning of the recognition criteria) remains constant across differing contexts. Figure 3 shows the research design used to test hypothesis $H_0$5. Lines (a) and (b) highlight the 2 x 2 manipulation of decision context (the independent variable) between groups 1 and 8 and groups 2 and 9. The manipulation is achieved by altering case facts about the ASIC's monitoring

Figure 3: Research Design - Hypothesis $H_0$5



presence. Under the prescribed process, judgement 2 should remain constant across the differing contexts. However, as the ASIC's monitoring presence increases[3], auditor judgements are expected to be more conservative. The nature of the conservatism will reflect in a negative association between judgement 2 (the dependent variable) and the degree of ASIC's presence.

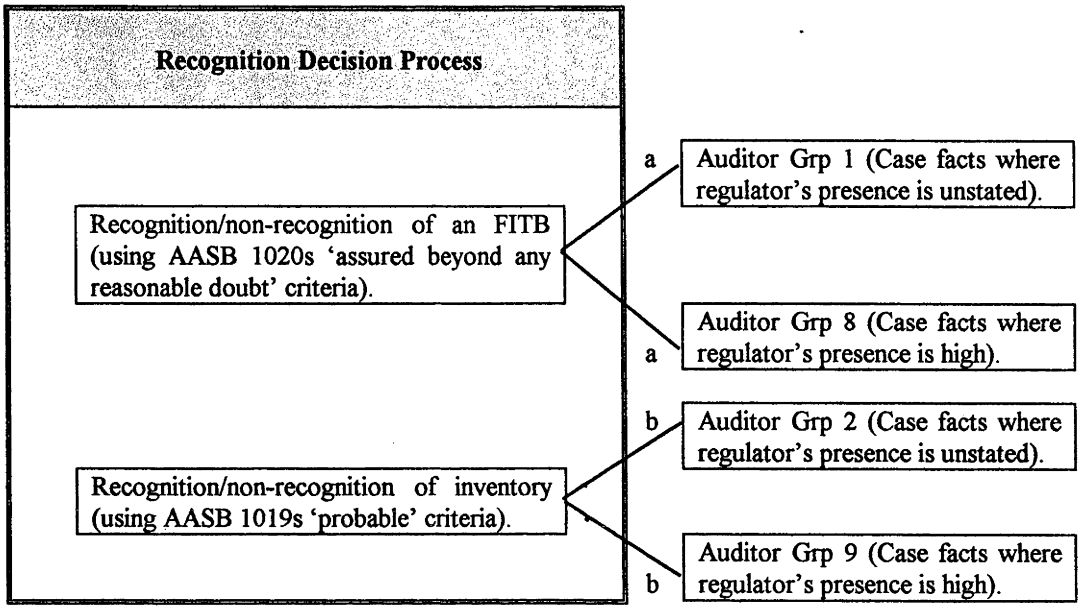
6.2.3 Summary of Research Design: Hypothesis $H_0$6

Figure 4 depicts the research design used to test hypothesis $H_0$6. As with the fifth hypothesis, the sixth hypothesis also examines the effects of an increased regulatory monitoring presence on the recognition decision process. The process prescribed by standard setters requires recognition of the financial element only where the recognition test is met. However, for reasons discussed in Chapter Three, it is expected that auditors use a process that is inconsistent with the prescribed process in some instances (to be tested by $H_0$4). It is also expected that these instances are likely to be fewer where the ASIC monitoring presence is high. This latter expectation is tested in hypothesis $H_0$6.

[2] 'High' meaning a higher ASIC monitoring presence relative to no specific mention of an ASIC presence in the cases examined by groups 1 and 2.

[3] 'Increases' is used in the following context. In cases examined by groups 1 and 2, no specific mention is made of the regulator. In cases considered by groups 8 and 9, case facts include mention of a letter from the ASIC to the audit client. These latter facts are seen as likely to increase awareness of the regulatory presence of ASIC.

Figure 4: Research Design - Hypothesis $H_0$6



To test the hypothesis, case facts are manipulated between-groups in the manner previously discussed in relation to testing hypothesis $H_0$5. That is, groups 1 and 2 make recognition judgements and decisions in the context of case facts that do not specifically mention the presence of the regulator. Groups 8 and 9 consider the same cases (as groups 1 and 2 respectively) except mention is made of the regulator having recently communicated with the audit client. As highlighted by lines (a) and (b) in Figure 4, comparisons are then made between groups 1 and 8 and groups 2 and 9. The decision outcomes for groups 8 and 9 are expected to be more conservative. That is, mention of the regulator in their case facts is likely to increase the auditor's awareness that they might be held accountable for their decisions. Consequently, fewer decisions are expected to be inconsistent with use of the prescribed process. Having discussed the research design used in testing each hypothesis, the following sections examine the testing of hypotheses $H_0$4, $H_0$5 and $H_0$6 and results thereof.

6.3 Testing Hypothesis $H_0$4

This section addresses descriptive statistics associated with, and tests the question posited in, hhypothesis $H_0$4. This hypothesis examines whether the decisions of auditor subjects are consistent/inconsistent with use of the sequential decision process prescribed in accounting standards. In the null form, it is hypothesised that:

$H_0$4 There is no significant difference between decision outcomes that would occur under the process prescribed in accounting standards and those made by auditors in a recognition decision context.

It is expected that, in some circumstances, auditor preferences and/or incentives will lead them to make decisions that are inconsistent with use of the prescribed process. There are two ways that this could occur. Firstly, subjects may recognise a financial element when the probability of realisation (judgement 1) < the probability connoted by the recognition criteria (judgement 2). Hereafter, this is referred to as 'type 1' non-compliance. Secondly, subjects may not recognise a financial element when judgement 1 ≥ judgement 2. This is referred to as 'type 2' non-compliance hereafter.

6.3.1 Descriptive Statistics

Analysis of auditor judgements 1, 2 and their recognition decision in the case decision contexts reveals instances of both type 1 and type 2 non-compliance. Table 1 presents the frequencies of non-compliance in each treatment group. Of the three hundred and twenty decisions[4] made by subjects, 55 (17.18%) are inconsistent with application of the prescribed process. Of these, 47 are type 1 non-compliance and 8 are type 2 non-compliance.

[4] 20 subjects x 16 cases = 320 observations.

Table 1: Frequency of Non-Compliance with Prescribed Decision Process

Group	Non-Compliance	Case 1	Case 2	Case 3	Case 4	Total
1	Type 1	2	1	12	6	21
	Type 2	0	0	0	0	0
	Total	**2**	**1**	**12**	**6**	**21**
2	Type 1	5	5	NA	NA	10
	Type 2	1	3	NA	NA	4
	Total	**6**	**8**			**14**
3	Type 1	1	0	2	2	5
	Type 2	0	0	0	0	0
	Total	**1**	**0**	**2**	**2**	**5**
4	Type 1	2	1	NA	NA	3
	Type 2	2	2	NA	NA	4
	Total	**4**	**3**			7
5	Type 1	2	3	NA	NA	5
	Type 2	0	0	NA	NA	0
	Total	**2**	**3**			**5**
6	Type 1	2	1	NA	NA	3
	Type 2	0	0	NA	NA	0
	Total	**2**	**1**			**3**
	Grand Total	**17**	**16**	**14**	**8**	**55**

The majority of non-compliance appears in the decisions of treatment groups 1, 2, 4 and 5[5]. These groups examine the recognition of future income tax benefits, inventory, losses on construction contracts and lastly, research and development expenditure (as an asset) respectively. The nature of information in cases they

[5] While there is also a total of 5 instances of non-compliance in the group 3 results, it is spread over 4 cases (unlike group 5 where only 2 cases were examined by the group).

examine is disparate and reasonably diverse. They interpreted and applied recognition criteria that use the terms 'assured beyond any reasonable doubt', 'probable', 'foreseeable' and 'expected beyond any reasonable doubt' respectively. Therefore, the context of the decision (ie case facts), the nature of the financial element and the recognition criteria considered by these groups cover a broad spectrum and provide no readily apparent reason for the observed behaviour.

What then are systematic similarities in these groups that might explain the observed behaviour? One possibility is the nature of the recognition criteria, in conjunction with, the nature of the non-compliance. In groups 1 and 5, only type 1 non-compliance appears. These groups interpret and apply recognition criteria conveying higher degrees of certainty. That is, 'assured beyond any reasonable doubt' (in the recognition of future income tax benefits), and 'expected beyond any reasonable doubt' (in the recognition of research and development assets) respectively. It may be that some subjects view the prescribed recognition criteria as too rigorous and, despite judgement 1 < judgement 2, recognise the element.

The majority of type 2 non-compliance appears in the decisions of treatment groups 2 and 4. These groups interpret and apply recognition criteria connoting lower degrees of certainty. That is, 'probable' for group 2 (in the recognition of inventory as an asset) and 'foreseeable' (in the recognition of losses on construction contracts) for group 4. It appears some subjects (believing the recognition criteria are not sufficiently stringent) make value judgements not to recognise the element despite their own judgement 1 ≥ judgement 2. The results in group 4 are of some interest since this group make decisions about the recognition/non-recognition of losses on construction contracts. The existence of type 1 non-compliance in this group is consistent with the view that some subjects assess the prescribed recognition criteria as being too weak. Consistent with this is the fact that 'foreseeable' is interpreted as conveying the lowest certainty of all terms examined in the present study. However, the co-existence of type 2 non-compliance in this group also suggests that some subjects may view the prescribed criteria as too stringent. This may be explained by the fact that 'foreseeable' conveys the greatest variability in interpretations made by subjects in the present study (see Table 5 in Chapter Five)

6.3.2 Testing the Hypothesis

Testing hypothesis $H_0 4$ focuses upon the frequency of non-compliance with the prescribed process, irrespective of whether it is type 1 or type 2. Subjects' recognition decisions were coded as follows. Decisions to recognise the financial element were coded '1'. Decisions not to recognise the financial element were coded '2'. A dummy variable was then created to reflect model decision outcomes under the decision process prescribed in accounting standards. These were also coded '1' or '2'. In this way, two variables constituted by dichotomous data, result. They represent (1) the observed decision outcomes and (2) the model decision outcomes. The difference between the two variables simply reflects the number of non-compliant decisions (type 1 and type 2) (see Table 1).

The hypothesis to be tested relies upon a one-sample comparison of observed and expected frequencies in discrete categories involving nominal data[6]. In these circumstances the χ^2 test is appropriate (Leedy, 1985: p.182; Seigel, 1956: p.43). However, in some cases the frequencies of model decisions coded '1' or '2' are less than 5 and, in these circumstances, the χ^2 test is inappropriate.

Testing $H_0 4$ examines the degree of agreement between the distribution of observed decisions with a theoretical distribution (ie the expectation under the null hypothesis). In these circumstances, (and when expected frequencies are less than 5) the Kolmogorov-Smirnov (K-S) one-sample test is most appropriate (Leedy, 1985: p.204; Seigel, 1956: p.47). As noted by Seigel, where expected frequencies are less than 5 the K-S test '... may in all cases be more powerful than its alternative, the χ^2 test' (1956: p.51).

Table 2 contains results of tests between the observed decisions variable and the model decisions variable. Results are presented for each group in each case. At the 5% level, significant differences exist between observed and model decision outcomes in four cases. That is, in cases 3 and 4 for group 1 and both cases for

[6] Since the coding uses numbers and '2' is always greater than '1', the data may also be treated as ordinal. The treatment is completely permissible because it does not result in any loss of information.

Table 2: χ^2 and K-S Test Results: Groups 1-6 Recognition Decisions

Group	Case 1	Case 2	Case 3	Case 4
1	χ^2=1.06; p=.301ns	D=.05; p>.20 ns	χ^2=30.0; p<.001	χ^2=5.95; p=.014
2	χ^2=5.05; p=.024	χ^2=8.57; p=.003	NA	NA
3	D = .05; p>.20 ns	D = 0; p>.20 ns	χ^2=.833; p=.361ns	D =.10; p>.20 ns
4	χ^2=3.89; p=.051ns	χ^2=1.97; p=.159 ns	NA	NA
5	D = .10; p>.20 ns	D =.15; p>.20 ns	NA	NA
6	χ^2=.833; p=.361 ns	χ^2=.266; p=.605 ns	NA	NA

group 2[7]. Additionally, when results are pooled across all 320 decisions, the observed and the model decision variables are significantly different (χ^2 = 37.8125; p< .001).

In cases 3 and 4 for group 1 and in both cases for group 2, a significant number of auditor subjects make decisions that are inconsistent with use of the prescribed process. As discussed earlier, only type 1 non-compliance appears in the decisions of group 1. This group were required to interpret and apply the recognition criteria containing the term 'assured beyond any reasonable doubt' as used in the recognition test for future income tax benefits. For auditor subjects this term conveys the highest degree of certainty (of the selected recognition criteria). For group 2, only type 2 non-compliance is observed in the decisions. This group were required to interpret and apply recognition criteria conveying lower degrees of certainty this being 'probable' in the recognition of inventory as an asset. It may be that subjects make value judgements about the recognition test being too rigorous (in the case of group 1) and insufficiently rigorous (in the case of group 2) and apply their own test. Alternatively, subjects may be using a decision process that is markedly different from the prescribed process and does not require the meeting of a 'test'.

[7] Additionally, results for group 4 in case 1 are notable (χ^2= 3.809; p=.051) although not strictly significant at the 5% level.

Hypothesis $H_0$4 examines the first of two key elements in the prescribed recognition decision process. In the null, it posits that no significant difference exists between auditor subject decisions and model decisions expected under the process prescribed in accounting standards. However, across the 320 observed decisions made by subjects, a significant proportion differ from the model decisions. Additionally, in four of the cases, significant differences exist between observed and model decision outcomes. In these cases, significant numbers of subjects use a decision process that is inconsistent with the prescribed process and the study rejects hypothesis $H_0$4.

6.4 Hypothesis Testing - Hypothesis $H_0$5

This section presents descriptive statistics and tests the research question associated with hhypothesis $H_0$5. This hypothesis examines the second of the two key elements in the model decision process. That is, whether the meaning of the recognition criteria (judgement 2) remains constant across decision contexts that differ with respect to the level of regulatory monitoring presence. For reasons discussed previously, it is expected that meaning will not remain constant across the differing contexts. In the null, it is hypothesised that:

$H_0$5: For auditors, no significant difference in the quantitative meaning of probability terms used in financial element recognition will be associated with an increase in regulatory monitoring presence.

To test the hypothesis, groups 1 and 2 are treated as control groups. The decision context is then manipulated between these groups and groups 8 and 9. Manipulating the decision context is achieved by altering case facts about the ASIC's monitoring presence. Under the prescribed or model process, the meaning of the recognition criteria should remain constant across the differing contexts. However, as the ASIC's monitoring presence increases, this study expects auditor judgements to become more conservative. That is, a negative association between the ASIC presence and the quantitative meaning of the probability term in the recognition criteria (the dependent variable) is expected.

6.4.1 Descriptive Statistics

Table 3 contains descriptive statistics on the dependent variable for the four groups. Results in each of the cases are presented. Additionally, to enrich the analysis of observed behaviour, the table contains the results for judgements that all subjects made outside any case-decision context in section 1 of the instruments – that is prior to any of the subjects reviewing the cases (hereafter referred to as 'out-of-context

Table 3: Descriptive Statistics on Dependent Variable: Meaning of the Probability Term (Judgement 2)

Assured Beyond Any Reasonable Doubt	Out of Context (%)	Case 1 (%)	Case 2 (%)	Case 3 (%)	Case 4 (%)
Group 1 (Control Group)	*m*=96.3 *sd*=3.8	*m*=95.5 *sd*=4.15	*m*=95.8 *sd*=3.27	*m*=95.25 *sd*=3.67	*m*=95.95 *sd*=3.28
Group 8 (Treatment Group) (↑ Regulatory Presence)	*m*=93.10 *sd*=5.82	*m*=83.30 *sd*=12.59	*m*=83.30 *sd*=12.59	*m*=83.30 *sd*=12.59	*m*=83.30 *sd*=12.59
Probable	**Out of Context (%)**	**Case 1 (%)**	**Case 2 (%)**	**N/A**	**N/A**
Group 2 (Control Group)	*m*=66.60 *sd*=12.01	*m*=69.85 *sd*=10.43	*m*=69.6 *sd*=11.39		
Group 9 (Treatment Group) (↑ Regulatory Presence)	*m*=64.90 *sd*=13.65	*m*=60.70 *sd*=13.69	*m*=59.00 *sd*=14.61		

judgements'). With respect to the latter, little difference exists between groups 1 and 8 or groups 2 and 9. Since the out-of-context judgements were completed before case facts were considered, the similarity is not unexpected. In control groups 1 and 2, only subtle differences exist between the out-of-context judgements and those made within a case-decision context. However, for treatment groups 8 and 9 considerable differences exist between the out-of-context judgements and those made within a case-decision context. For these groups, the meaning conveyed by the probability terms decreases when interpreted in the case-decision context.

Within-group, between-case comparisons reveal little difference in the meaning assigned to each probability term. This is not unexpected since subjects in all groups may be sensitive to the fact that both standard setters and the regulator believe the meaning should remain constant across differing contexts. An attendance to this provides a plausible reason for the absence of variance in within-group results.

While within-group results show little variance, between-group, between-case results are markedly different. For treatment groups 8 and 9, the quantitative meaning of the probability term is considerably lower than the control groups 1 and 2. Additionally, the standard deviation for group 8 and 9 responses is also greater. The latter observation may be due to the subtle increase in the amount of contextual information examined by groups 8 and 9 but this is by no means certain.

6.4.2 Testing the Hypothesis

For reasons discussed in section 5.5, an independent sample 1-tailed *t*-test[8] is appropriate for testing hypothesis $H_0 5$. Table 4 presents the results of *t*-tests between control and treatment groups' responses. Significant differences between the control and treatment groups exist (at the 5% level) in all comparisons.

Table 4: Results of *t*-test Between Groups 1 and 8 and Groups 2 and 9

Between Group Comparison	Case 1	Case 2	Case 3	Case 4
Between Groups 1* and 8 (meaning of 'Assured Beyond any Reasonable Doubt')**	t=4.12 p<.001	t=4.30 p<.001	t=4.07 p<.001	t=4.35 p<.001
Between Groups 2* and 9 (meaning of 'Probable')**	t=2.12 p=.041	t=2.56 p=.015	N/A	N/A

* Groups 1 and 2 are the control groups.

** Groups 8 and 9 are the treatment groups where case facts increased the regulatory monitoring presence.

[8] Since a negative association between the dependent and independent variables is predicted, a 1-tailed *t*-test is appropriate.

In summary, the higher regulatory presence in cases considered by groups 8 and 9 is associated with influencing interpretations in the manner expected. The responses in these groups are consistent with judgements that are conservative and risk averse. Relative to the control groups, their judgements would afford increased flexibility in justifying decisions were they to be held accountable and, as such, would reduce exposure to litigation. As expected, a significant negative association exists between the regulator monitoring presence and the meaning of probability terms held by auditor subjects. Therefore, the study rejects the null hypothesis $H_0$5.

6.5 Hypothesis Testing - Hypothesis $H_0$6

This section presents descriptive statistics related to, and tests the research question posed in, hypothesis $H_0$6. This hypothesis examines whether an association exists between decision context and the recognition decision process. More specifically, the hypothesis tests whether an increase in the degree of regulatory monitoring leads to significant changes in the recognition decision process. In the null, the hypothesis is:

$H_0$6 No significant difference in auditors' recognition decision process will be associated with an increase in regulatory monitoring presence.

To test the hypothesis, groups 1 and 2 remain the control groups. The decision context is then manipulated between these groups and groups 8 and 9. The manipulation is again achieved by altering the cases considered by groups 8 and 9 through increasing the ASIC monitoring presence. As was found in testing hypothesis $H_0$4, in certain circumstances, a significant number of auditor subjects in groups 1 and 2 make decisions that are inconsistent with using the prescribed decision process. For subjects in treatment groups 8 and 9 this is not expected to occur. With an increased ASIC monitoring presence in cases they consider, they are more likely to be held accountable for their decisions. Therefore, these subjects are expected to behave more conservatively and reduce exposure to potential litigation. That is, their decisions are likely to be consistent with use of the prescribed decision process.

6.5.1 Descriptive Statistics

Examining auditor subjects' decisions in relation to their probability judgements facilitates an analysis of their decision process. Where a subject recognises a financial element when judgement 1 < judgement 2, it is inconsistent with the sequential process ('type 1' non-compliance). Where a subject does not recognise a financial element when judgement 1 ≥ judgement 2 it is also inconsistent with use of the sequential process ('type 2' non-compliance).

Table 5: Recognition Decisions: Frequency of Non-Compliance

Group	Non-Compliancy Decision	Case 1	Case 2	Case 3	Case 4	Total
1*	Type 1	2	1	12	6	21
	Type 2	0	0	0	0	0
	Total	**2**	**1**	**12**	**6**	**21**
8**	Type 1	1	1	1	1	4
	Type 2	0	0	0	0	0
	Total	**1**	**1**	**1**	**1**	**4**
2*	Type 1	5	5	NA	NA	10
	Type 2	1	3	NA	NA	4
	Total	**6**	**8**			**14**
9**	Type 1	0	0	NA	NA	0
	Type 2	0	0	NA	NA	0
	Total	**0**	**0**			**0**

* Groups 1 and 2 are the control groups.

** Groups 8 and 9 are the treatment groups where case facts increased the regulatory monitoring presence.

Table 5 contains data on the frequency of type 1 and type 2 non-compliancy for control and treatment groups. In total, there are 21 instances of type 1 non-compliance in control group 1. In treatment group 8, there are a total of 4 instances

of type 1 non-compliance and these are all made by the one subject in each of the four cases. In control group 2, there are 14 instances of non-compliance: 10 are type 1, and 4 are type 2 non-compliance. For treatment group 9, no evidence of type 1 or type 2 non-compliance appears in either of the cases examined. In summary, far fewer cases of non-compliance occur in the decisions of treatment groups 8 and 9.

6.5.2 Testing Hypothesis $H_0$6

To test the hypothesis, subjects' decisions were firstly coded. All type 1 or type 2 forms of non-compliance were coded '1'. The remaining decisions, ie decisions consistent with use of the prescribed process, were coded '2'. As with the testing of hypothesis $H_0$4, testing $H_0$6 focuses on the frequency of each type of decision. However, testing $H_0$4 relied upon a one-sample comparison of the frequency of observed decisions and the frequency of expected decisions (under the prescribed process). This is not the case in the testing of $H_0$6. Rather, it relies on a comparison of one dependent variable between two independent samples. The data are dichotomous and nominal. In the treatment groups, the number of decisions coded '1' is less than 5 in all cases. In these circumstances, the Fisher Exact Probability Test (Fisher) is the most powerful of tests for difference (Seigel, 1956: pp. 96-110).

Table 6: Between-Group Fisher Test (One Tailed)

Between Group Comparison	Case 1	Case 2	Case 3	Case 4
Between Groups 1* and 8** (Meaning of 'Assured Beyond any Reasonable Doubt')	p =.5ns	p =.75ns	p =.0002	p =.045
Between Groups 2* and 9** (Meaning of 'Probable')	p=.0101	p=.001	N/A	N/A

* Groups 1 and 2 are the control groups.

** Groups 8 and 9 are the treatment groups where case facts increased the regulatory monitoring presence.

Table 6 contains the results of Fisher tests between the dependent variable for control and treatment groups. For groups 1 and 8, no significant difference exists

between their decisions in cases 1 and 2. In these cases the frequency of non-compliance for both groups is low (as highlighted in Table 5). However, in cases 3 and 4 the frequency of non-compliance in decisions by group 1 is considerably higher than appearing in the decisions of the treatment group 8. At the 5% level, the frequency of non-compliance in both groups is significantly different. A similar result occurs in tests between the decisions of groups 2 and 9. The frequency of non-compliance in the treatment group (group 9) is zero in both cases. Testing between the groups' decisions indicates a significant difference exists. Therefore, in four out of the six cases examined, the increased ASIC monitoring presence is negatively associated with the incidence of type 1 and type 2 non-compliance.

These results are as expected and subjects in the treatment groups appear to adopt a decision process consistent with the prescribed process. However, there are two alternative explanations. They are linked to the effects of the increased ASIC presence on judgements 1 and 2 in the decision process. Firstly, the manipulation of case facts may have resulted in treatment groups assessing a greater likelihood of asset realisation (judgement 1) than subjects in the control groups. If so, it would follow that the recognition test is more likely to be met. In which case, resulting recognition decisions will appear consistent with use of the prescribed process. To determine the level of support for this explanation requires an analysis of subjects' responses to judgement 1. Table 7 contains statistical data on judgement 1 for the control and treatment groups. Additionally, the table contains results of independent sample 2 tailed t-tests between the relevant group means. The absence of any significant between-group difference confirms manipulation of the ASIC presence had little, if any effect on judgement 1 in the treatment group. Consequently, the first alternative explanation of results is unsupported.

Table 7: Descriptive Statistics on Judgement 1 for Control and Treatment Groups and Results of Between-Group *t*-Tests

	Case 1	Case 2	Case 3	Case 4
Group 1*	*M*=72.5% *s*=19.00%	*M*=59.5% *s*=17.53%	*M*=88.8% *s*=7.84%	*M*=95.1% *s*=3.60%
Group 8**	*M*=75.3% *s*=16.31%	*M*=55.7% *s*=16.00%	*M*=85.1% *s*=13.84%	*M*=93.1% *s*=6.12%
Between Group *t*-test	*t*=.51 *p*=.614ns	*t*=.71 *p*=.484ns	*t*=1.04 *p*=.306	*t*=1.26 *p*=.216
Group 2*	*M*=58.2% *s*=20.53%	*M*=43.3% *s*=23.16%	NA	NA
Group 9**	*M*=58.5% *s*=12.68%	*M*=41.7% *s*=18.72%	NA	NA
Between Group *t*-test	*t*=.05 *p*=.963ns	*t*=.24 *p*=.811ns	NA	NA

* Groups 1 and 2 are the control groups.

** Groups 8 and 9 are the treatment groups where case facts increased the regulatory monitoring presence.

The second alternative explanation concerns the effects of increasing the ASIC presence on judgement 2. In the testing of hypothesis $H_0$5, significant differences were found between the judgements of the control and treatment groups. That is, the treatment groups assigned significantly lower probabilities to the minimum numerical equivalents of the probability terms. For these groups, the test for recognition of the element is lower and more easily satisfied. This could explain the significant decrease in the incidence of observed type 1 non-compliance in the treatment groups' decisions and could provide an alternative reason for the observed behaviour examined in the testing of $H_0$6. However, it does not explain and would be inconsistent with the total absence of type 2 non-compliance. Therefore, the second alternative explanation is also unsupported. Accordingly, it is concluded that the ASIC manipulation appears to alter subject's decision process such that it is seen to be consistent with the prescribed process and the study rejects hypothesis $H_0$6.

6.6 Summary: Results of Testing Hypotheses $H_0$4, $H_0$5, and $H_0$6

The hypotheses examined in this chapter address application of the prescribed recognition decision process. In particular, they address two key elements of the process about which standard setters and regulators share an understanding. The first element of the prescribed decision process requires the decision outcome to be dependent upon a comparison between the results of two judgements made by the decision maker. The first of these two judgements concerns assessing the probability of financial element realisation (judgement 1). The second of these two judgements concerns determining the meaning of and probability connoted by the recognition criteria (judgement 2). The latter is the test for recognition and judgement 1 must equal or exceed judgement 2 for recognition to occur.

The second key element of the prescribed decision process is that it assumes (or presumes) the meaning of the recognition criteria (that is, judgement 2) does not differ significantly across differing contexts. Both standard setters and the regulator share this meaning. Demonstrable evidence of this (albeit through analytic review) is seen when interpretations made by standard setters and regulators quantify the meaning of recognition criteria or express it as always being higher or lower than the meaning of some other probability term.

The hypotheses examined and tested in this chapter posit that:

(a) Auditors do not always comply with the prescribed decision process in so far as the decision outcome should be dependent upon, and a function of a comparison between two judgements prescribed in the selected recognition criteria (hypothesis $H_0$4);

(b) For auditors, the meaning of selected recognition criteria differs across differing decision contexts and, in this respect, auditors do not share meaning with standard setters or regulators (hypothesis $H_0$5); and

(c) The level of auditor non-compliance with prescribed recognition criteria (described in point (a) above) is negatively associated with the level of

perceived regulatory monitoring. As the latter increases, the incidence of non-compliance is expected to decrease (hypothesis $H_0$6).

The present study rejects hypotheses $H_0$4, $H_0$5, and $H_0$6. In the test of hypothesis $H_0$4, there are significant differences between observed decisions made by the auditor subjects and model decisions inherent in the prescribed decision process. In pooled results, and in four of the cases examined, a significant number of decisions are inconsistent with use of the prescribed process. That is, decision outcomes are seen not to be dependent upon meeting the prescribed test for recognition. In some instances, auditors recognise financial elements despite the test of recognition not being met. Additionally, and conversely in some cases, auditors do not recognise financial elements when the test for recognition is met.

However, the above behaviour is not observed when auditors make the same decisions in a context that includes a relatively higher regulatory monitoring presence. In this context, the vast majority of decisions are consistent with use of the prescribed process. Accordingly the study rejects the null hypothesis $H_0$6 and concludes that a negative association exists between the level of regulatory presence and the frequency of non-compliance with the prescribed process in the cases examined.

Increasing the regulatory monitoring presence had similar effects on the judgements of auditor subjects. That is, for auditors, a negative association exists between the level of regulatory presence and the quantified meaning of recognition 'tests' (ie probability terms). The results for auditors are, inconsistent with the meaning of these terms as held by standard setters and the regulator. Both the latter interpret the meaning of recognition criteria as being significantly unaffected by changes in context of interpretation. Hypothesis $H_0$5 tests whether auditors share this meaning. The study finds that, with respect to the meaning of 'assured beyond any reasonable doubt' and 'probable', they do not and rejects the null hypothesis $H_0$5.

CHAPTER 7
DISCUSSION AND CONCLUSIONS

7.0 Objectives and Structure of Chapter 7

This chapter concludes the thesis. Its principal objectives are to discuss the major conclusions and implications that flow from the study. The chapter is structured as follows: Section 7.1 summarises the thesis; Section 7.2 discusses conclusions drawn in this thesis. These conclusions must be considered in the context of methodological limitations discussed in section 7.3. Section 7.4 examines implications of the thesis for accounting theory, policy and methodology. Finally, section 7.5 discusses avenues for future research and section 7.6 provides concluding remarks.

7.1 Summary of the Thesis

The initial chapter in this thesis examines theories of communication and meaning. While there is no one generally accepted model of communication, critical elements are common in the models examined. Importantly, effective communication is dependent upon the absence of what Weaver (1949) termed 'the semantic problem'. The semantic problem considers how precisely the transmitted symbols convey the desired meaning. Implicitly, this involves comparing the sender's intended meaning with the meaning interpreted by the receiver. The semantic level of meaning has two distinctive classes known as the 'denotative' and 'connotative' meaning. Denotative meaning is similar for all those who can understand it. Connotative meaning arises through the interaction of many variables and is both subjective and context dependent. Importantly, it is the connotative meaning that is the critical aspect associated with different behavioural reactions and, if meaning is not shared on this level, communication can be said to have failed.

Communication is seen as both the fundamental feature and central problem of accounting. In the accounting domain, the information communicated to general purpose financial statement users is largely dependent upon the judgements and decisions of participants in the external financial reporting process. Three of the key participants are standard setters, the corporate regulator and auditors and, for

communication through financial statements to be effective, these three participants must share meaning.

This thesis examines the effectiveness of communication, through accounting standards (and particularly about recognition criteria therein), between standard setters, the regulator and auditors. Key reasons for doing so are to improve the accounting and auditing process, contribute to the literature and understanding of financial statement element recognition decisions, and the economic consequences associated with ineffective communication regarding financial statement element recognition criteria.

While standard setters, the regulator and auditors are part of the external financial reporting environment, each has a different role. Accordingly, each has different objectives, constraints and incentives. Importantly, these objectives, constraints and incentives form part of the context in which each make judgements and decisions and in which communication between them must occur. Given the disparity between their respective contexts of operation, this thesis questions and obtains empirical evidence about whether the aforementioned participants share an understanding about legally mandated financial statement element recognition criteria. In doing so, the present thesis considers five areas. The first of these relates to research methodology while the other four consider substantive issues related to the interpretation and application of recognition criteria for financial statement elements. In summary, the five areas are:

(a) Whether an association exists between experimental research design and auditor held meaning of probability terms used in accounting recognition criteria.

(b) Whether standard setters, regulators and auditors share an understanding about the meaning of probability expressions[1] used in recognition criteria.

(c) Whether auditor decisions are consistent with those that would occur through compliance with the decision process implicit in prescribed recognition criteria.

[1] In particular, the thesis examines the meaning of 'probable'; 'expected beyond any reasonable doubt'; 'assured beyond any reasonable doubt'; 'virtually certain'; 'foreseeable'; and 'expected'.

(d) Whether changes in the decision-making context (in particular, the facts pertaining to the regulatory environment of the audit client) are associated with significant changes in the meaning of probability expressions held by auditors.

(e) Whether changes in the decision-making context (again, with respect to the facts pertaining to the regulatory environment of the audit client) are associated with significant changes to auditor decisions and 'improved communication' with the latter being assessed through the degree of perceived compliance with decision process implicit in prescribed recognition criteria.

Within the present thesis, analytic review reveals aspects of qualitative, and in some cases, quantitative meaning held by standard setters and the regulator. Prior research on the meaning held by Australian auditors uses a within-subject design and results may be contaminated by confounding factors. Consequently, the meaning held by auditors was unclear. Equally unclear was whether auditors share meaning with standard setters or the regulator. In the present study, a laboratory experiment provides empirical evidence about (a) an association between experimental design and the auditor held meaning of probability terms in recognition criteria and (b) the meaning held by auditors in case decisions contexts. The latter is compared with the meaning held by standard setters and the regulator to determine whether the three participants share meaning. Additionally, and after manipulating a contextual variable, the meaning held by auditors is again compared with that of the standard setter and regulator to determine whether the three participants share meaning.

With respect to the decision process, analytic review reveals the process prescribed by standard setters and understood by the regulator when monitoring compliance with accounting standards. A laboratory experiment using case-decision contexts provides empirical evidence about the judgements and decisions made by auditors. The thesis then examines whether auditors appear to use the prescribed process and whether they share an understanding with standard setters and the regulator. Finally, and after manipulating a contextual variable, the thesis again examines whether auditors use the prescribed process and in doing so, share an understanding with the regulator and standard setter.

7.2 Conclusions

The major conclusions in this thesis are divided into three parts. These are conclusions about research design, the meaning of probability terms used in recognition criteria, and the financial element recognition judgement and decision process.

7.2.1 Research Design: Within-Subject versus Between-Subject

A number of important conclusions may be drawn about research design and the quantitative meaning of probability terms. Previously reported studies on the meaning of probability terms in Australian accounting standards employ within-subject research designs. These studies have been criticised because they do so. The criticism posits that, by using a within-subject design, subjects may be sensitised and attend to variables that distort or confound the results. The inference is that these studies are limited in their contribution toward an understanding of accounting theory and practice.

However, the issue is not reported as having specifically been tested prior to this thesis[2]. Therefore, using a within-subject and a between-subject design, the present study measures the meaning (held by auditors) of probability terms outside a decision context. The within-subject design essentially replicates prior Australian studies that examine the meaning of 'assured beyond any reasonable doubt' and 'virtually certain'. In the present study, the resulting conclusions are that, for auditors:

(a) An association exists between research design and the quantitative meaning of probability terms. Significant differences were found between the meaning held by auditors in the within-subject design and those in the between-subject design.

(b) While prior research provides an important foundation for research that follows, the within-subject design may seriously limit its generalizability; and

(c) Results supported adoption of a between-subject design in testing the other hypotheses in this thesis.

[2] Pany and Reckers (1987) report within-subject designs encourage subjects to attend to experimental manipulations of incentive factors that are not attended to in between-subject designs. They did not specifically address association between research design and the meaning of probability thresholds.

7.2.2 The Absence of Shared of Meaning

Prior studies report examining the meaning of only two of the probability terms used in legally mandated Australian accounting standards. Of these, only one study examines meaning held by auditors in a decision context but does so using a within-subject design. Consequently, this thesis contributes toward understanding the meaning of six probability terms (ie 'assured beyond any reasonable doubt', 'expected beyond any reasonable doubt', 'expected', 'foreseeable', 'virtually certain' and 'probable') five of which have not previously been examined in a decision context (ie 'expected', 'assured beyond any reasonable doubt', 'expected beyond any reasonable doubt', 'foreseeable' and 'probable'). Importantly, it makes this contribution by examining the meaning held by auditors in a decision context. Further, as previously noted, it does so using a between-subject design.

In the present study, experienced auditors are asked to interpret and apply the relevant financial element recognition criteria in the context of real though simplified and disguised cases. A critical part of the process is their judgements concerning the meaning of probability terms used as the test in these criteria. Each auditor quantified the meaning conveyed by one of six different probability terms. This is then compared with meaning held by standard setters and the regulator (wherever their interpretations are available). The comparison examines both the quantitative and relative meaning of terms[3].

The study reports significant differences between the quantified meaning held by auditors and that held by standard setters and the regulator. Additionally, and with respect to the relative meaning of the terms, significant differences exist between auditors and standard setters in six instances and between auditors and the regulator in three instances. The present study also reports that, when the context of interpretation changes, the meaning of recognition criteria held by auditors also changes significantly.

[3] 'Quantitative meaning' refers to an interpretation of meaning which incorporates a numerical probability eg 'Probable' means > 50%. 'Relative meaning' refers to an interpretation of meaning where the level of certainty or probability conveyed by one term is expressed in terms that are relative to the level of certainty conveyed by another term. For example, with respect to the relative meanings of 'virtually certain' and 'assured beyond any reasonable doubt', ASIC believes the minimum probability attributed as equal to 'virtually certain' is higher than that connoted by 'assured beyond any reasonable doubt' (as discussed in section 2.9 of the thesis).

More precisely, there is negative association between regulatory monitoring presence and the meaning of the recognition test itself. The minimum numerical equivalent of the recognition test is found to be significantly less in decision contexts noting the regulator having contacted the audit client, as compared to decision contexts that make no specific mention of the regulator. Auditors (in the cases examined) clearly do not share the same meaning as standard setters or the regulator with respect to the absence of contextual variability. Importantly, the judgement made by auditors concerning the meaning of the recognition test is contextually dependent.

In summary then, meaning is not shared between auditors and standard setters or auditors and the regulator with respect to quantification of probability terms, with respect to relative probability or with respect to contextual variability. Consequently, the thesis concludes that communication between the three parties has not been effective. The implications of these conclusions are discussed in section 7.4.

7.2.3 Financial Element Recognition: The Decision Process

This thesis tests, *inter alia*, hypotheses that question (a) whether auditors' recognition decisions are a function of, and dependent upon meeting the recognition test prescribed in accounting standards; and (b) whether the process described in (a) is, for auditors, contextually dependent. The questions are important because, under the decision process prescribed in accounting standards (a) the decision outcome should be a function of, and dependent upon, equalling or exceeding the test for recognition and; (b) an assessment of shared understanding (ie the effectiveness of communication) about the decision process can be undertaken.

Prior research provides little evidence on whether auditors' recognition decisions are a function of, and dependent upon meeting the recognition test. Secondly, no reported study has addressed the effects of regulatory monitoring on the recognition judgement and decision process. Consequently, this study examines these issues and, in so doing, tests hypotheses $H_0$4 - $H_0$6. In the context of certain cases, the present study asks auditors to make the judgements and decisions associated with recognition of financial statement elements. With respect to two of the recognition criteria, case facts are manipulated between groups to alter the regulator's monitoring presence within the cases. The present study concludes that, in some cases, auditors do not use the decision process prescribed in recognition criteria. In four of the cases examined, significant numbers of auditors make decisions that are inconsistent with the recognition test being used to determine the decision outcome. These cases appear to be (although it is not certain) where the auditors judge the prescribed recognition test to be too high or too low.

The present study also reports that, when case facts are manipulated and where the regulator's monitoring presence is stated in case facts, the decision process used by auditors is consistent with the prescribed process. That is, the recognition test does appear to be the determining factor in the decision outcome and, where the regulator's presence is expressly mentioned, the understanding between auditor and standard setter is enhanced and communication appears effective.

7.3 Limitations of The Study

The aforementioned conclusions should be considered in the context of certain limitations. The first of these concerns the case materials. The cases are based on real examples and represent the types of contexts existing in practice. However, as noted in Chapter 5, they are not representative of all possible cases in the external financial reporting environment.

As discussed in Chapter 5, a possible limitation of the study relates to the research design. Subjects in the groups 1-6, 8 and 9 interpret the meaning of a probability terms outside a decision context as their first task. They then interpret the meaning of the same term in case decision contexts. While there is little, if any, evidence of anchoring, its possibility must be acknowledged.

The use of analytic review (as opposed to empirical testing) to obtain the quantitative and relative meaning held by standard setters and the regulator (about the selected recognition criteria) also presents a possible limitation in the present study. However, the alternative methodology of gathering of empirical data from the individuals who comprise the standard setting or regulatory body may not provide data that is representative of the body's official pronouncements. This was highlighted in studies such as Laswad and Mak (1999/2000) who noted the marked contrast between probability quantifications made by individuals from the standard setting body and the body's authoritative pronouncement regarding the meaning of 'probable'.

In authoritative pronouncements regarding the meaning of terms such as 'probable' and 'virtually certain', Australian standard setters and the regulator have effectively indicated how they expect these terms to be interpreted by, among others, auditors. Auditors rely upon authoritative pronouncements for guidance as to the intended meaning of recognition criteria in their own decisions regarding compliance or non-compliance with accounting standards. Hence the approach used in the present study is, in this respect, consistent with the external regulatory environment and the apparent limitation is viewed as minor.

Due to constraints on subject availability, true random sampling is not used in the present study. Having said that, within the constraints of the sample size, the allotment of subjects to each treatment group is random. In a related matter, all subjects within the sample are Australian auditors with at least four years experience in audit. Therefore, results are not necessarily generalizable to all accounting standard users either inside or outside the Australian financial reporting environment.

Finally, the use of an experimental laboratory setting inherently brings with it some limitations with respect to external validity. Many factors contribute to the variability of judgements and decisions and not all are capable of inclusion in experimental research. For example, the amount of information within a case is fixed, first hand experience with people within cases is absent and organizational factors may not be present. Having said that, the trade-off between internal and external validity is one that exists in many laboratory experiments. As discussed in Chapter 4, use of an experimental setting provides benefits of control over possible intervening variables. This outweighs the concern over limiting the generalizability of results for practice.

7.4 Implications of The Study

This section addresses the implications of the results and conclusions drawn in this thesis. The section is divided into three parts: theoretical implications, policy implications and methodological implications.

7.4.1 Theoretical Implications

A substantial body of accounting literature is directed at measuring the meaning of probability terms used in financial element recognition criteria (Simon, 2002; Laswad and Mak, 1999/2000; Amer et al 1995; Raghunandan et al, 1991; Harrison and Tomassini, 1989; Jiambalvo and Wilner, 1985; Schultz and Reckers, 1981; Chesley, 1979). Part of the rationale for this is that the meaning of the terms represents the test or threshold that must be met in financial element recognition decisions. Therefore, understanding the meaning of the test is seen as highly important for accounting research. One of the assumptions that underpin the aforementioned research is that the 'test' is actually an integral part of the recognition decision process. However, the

present study demonstrates conclusively that there are cases where the decision outcome is not dependent upon meeting or exceeding the recognition test. In some cases, auditors do not recognise an element despite the recognition test being met (referred to as 'type 1 non-compliance' in Chapter Six). In other cases, auditors recognise the element despite the recognition test not being met (referred to as 'type 2 non-compliance' in Chapter Six). The assumption that underpins previous research (discussed above) can now be seen as having been tested and found wanting in some cases.

A considerable volume of accounting literature also examines the effects of incentives on auditor decisions. Much of the research is theoretically similar to the costly contracting based research and predicts an association between auditor decision outcomes and variables such as client preference, risk of client loss, risk of detection or lawsuit and engagement risk (Hackenbrack and Nelson, 1996; Cargile, 1994; Lord, 1992; Roberts and Farmer et al, 1987). However, Schultz and Reckers (1981) raise the possibility of auditors using some variant of an expected value decision model with sense of propriety or equity for users of financial statements being an important factor in the decision outcome. While this is not directly tested, the present study finds supporting evidence for this in the recognition of expenses (losses on construction contracts) despite the prescribed criteria not being met; and the non-recognition of assets despite the prescribed recognition criteria being met. At the very least, the evidence suggests that, where the regulatory presence is not overt, auditors are not always more likely to allow aggressive reporting methods.

The presence of a regulatory body is common to the external financial reporting environment of many countries. Therefore, the effect of regulatory monitoring on accounting judgement and decision making is an important area for research. In the present study, the between-group manipulation of the regulator's monitoring presence in case decision contexts authoritatively establishes a clear association between the level of regulatory monitoring and (a) the quantitative meaning of recognition tests and (b) the consistency of decisions with the recognition decision process prescribed in accounting standards. Additionally, the present study also demonstrates that for auditors, incentives associated with an increased regulatory monitoring presence appear stronger than the

incentives to use a non-compliant decision process (*ceteris paribus*). This is important for improving communication between standard setters, the regulator and auditors particularly with respect to financial statement element recognition criteria.

As far as the researcher is aware the above elements of the recognition judgement and decision process are not previously reported as having been tested. The findings of this study are therefore non-trivial and add to the body of accounting research literature.

7.4.2 Policy Implications

In addition to the theoretical implications discussed in the previous section, this thesis also possesses important implications for accounting policy making and practice.

At the time the researcher commenced this thesis, Australian standard setters were using a variety of probability terms in the recognition criteria for different financial elements. This thesis examines judgements concerning the contextual meaning of six of these terms. However, since commencing the thesis, three relevant changes have occurred. The first of these is that the term 'foreseeable', in the recognition criteria for losses on construction contracts, has been replaced with 'probable' (AASB, 1997a). For the standard setters, 'probable' and 'foreseeable' were synonyms (refer section 2.7). For the regulator, the two terms convey different degrees of certainty however the direction of that difference was not determinable in the present study (refer section 2.8). For the auditor subjects in the present study, the term 'probable' conveys a significantly higher level of certainty than 'foreseeable'.

The second of the changes which has occurred is deletion of the reference to 'probable' future revenues being required to cover the costs of inventory in the accounting standard AASB 1019 Inventories (AASB, 1998). Paragraph 5.2.1 now states that inventories '... must not have a carrying amount in excess of amounts **expected** (emphasis added) to be recovered ...' (AASB, 1998: p.8). For both standard setters and the auditor subjects in the present study, these two terms were not seen as significantly different. However, for the regulator, the two terms convey different degrees of certainty however the direction of that difference was not determinable in the present study (refer section 2.8).

The third change worthy of mention has been the approval of the Australian accounting standard 'AASB 1044 Provisions, Contingent Liabilities and Contingent Assets' (AASB, 2001). Within this standard, provisions for present obligations concerning **probable** future outflows of economic resources must be recognised (AASB, 2001: p. 16). The standard also makes mention of contingent assets and contingent liabilities where the probability of a future flow of economic resources is **remote** indicating these items are not required to be disclosed (AASB, 2001: p. 43).

In summary then, the above changes mean that 'foreseeable' is no longer in use as an express recognition test. However, 'foreseeable' was replaced with 'probable' and, as discussed earlier, standard setters and the regulator do not appear to share meaning about this term either. Further, auditors were seen not to share meaning with either standard setters or the regulator about the meaning of 'probable'. In summary then, aside from 'foreseeable', all of the other probability terms selected for examination remain contemporary[4]. Consequently, this thesis has considerable policy implications.

The thesis demonstrates that auditors do not share quantitative meaning with standard setters about the word 'probable', do not share quantitative meaning with regulators about 'virtually certain', and do not share relative meaning with standard setters or regulators about many of the terms examined, including 'probable' and 'virtually certain'. Further, they do not share meaning with respect to an absence of contextual variability. This absence of shared meaning is cause for serious concern. Its presence creates considerable doubt about the effectiveness of both the pronouncements and the parties within the external financial reporting environment. It raises questions about whether auditors can apply recognition criteria as they are intended. Moreover, it suggests they are not, and cannot unless further guidance and improved communication occurs. Additionally, it creates serious doubt about regulators' ability to monitor and enforce the standard setter's intended message.

[4] As part of an international harmonisation programme, Australian standard setters have agreed to replace many Australian accounting standards by adopting the standards of the International Accounting Standards Board for application to reporting periods beginning on or after January 2005 (AASB, 2004: p. 5). The implications of this intended change are discussed later in Chapter 7.

Of equal concern, is the real possibility that regulators will litigate against a company and its auditors (for perceived non-compliance with recognition criteria) when the issue is ineffective communication and disparity between interpretations held by the various parties. A clear example is highlighted through the results in this thesis and a practice note issued by the ASIC on future income tax benefit recognition (ASIC, 1993c). In the latter, the ASIC is highly critical of companies and auditors for not applying the 'virtual certainty' recognition criteria with enough rigour. The results in this thesis demonstrate that the fundamental issue may well be that auditors interpret the words as conveying significantly lower degrees of certainty than does the regulator and applied the criteria as was interpreted by them.

In the present thesis, increasing the regulatory monitoring presence (within the case facts examined by auditor subjects) was associated with a significant decrease in perceived non-compliance. Further, increasing the regulatory monitoring presence was associated with a decrease in the quantified meaning 'probable' connotes for auditors. This lower quantification is closer in numerical proximity to the meaning held by standard setters. Consequently, it may be that increasing the regulators monitoring activities can have a positive affect on communication between the relevant parties.

In communication between the parties about the meaning of words such as 'probable' and 'virtually certain', attention must be paid not only to the meaning these terms convey, but also to the effects of context[5]. The present study finds strong evidence that the meaning of recognition criteria is significantly altered by context of interpretation. The present study is not the first to report these findings. This finding is consistent with results from previous studies in both the accounting and psychology domains. Therefore, one must question the absence of significant contextual variability that both standard setters and the regulator ascribe to the meaning of terms such as 'probable' and 'virtually certain'. Part of this question goes to how realistic the positions of standard setters and the ASIC are, given the compelling evidence about the way context affects the meaning of probability terms.

[5] The present study is not advocating the replacement of these terms with precise 'bright line' standards. Cuccia, Hackenbrack and Nelson (1995) demonstrate that this is unlikely to be effective.

Perhaps one of the more important policy issues emanating from this thesis concerns the financial element recognition decision process. As discussed in Chapter 3, the same or very similar process is described in authoritative pronouncements issued by Canadian, UK and US standard setting bodies. Therefore, it is of some importance that the present thesis reports significant numbers of the sample auditors using a decision process that appears inconsistent with the prescribed process. Whether these are deliberate acts of non-compliance or problems with the communication process is uncertain. However, the present thesis clearly shows that, with greater regulatory monitoring presence in the reporting environment, communication 'improves' insofar as decision outcomes appear consistent with use of the prescribed process. Therefore, one means of increasing compliance with the prescribed decision process is to improve the communication about the desired process and increase the monitoring presence of the regulatory body.

In 2002 the ASIC announced an accounting surveillance project '... directed to areas of accounting abuse of the type recently discovered in the USA.' (ASIC, 2002: p.1). In doing so, ASIC giving '... higher priority to capitalised and deferred expenses, recognition of revenue and ...' (ASIC, 2002: p.1). In 2003 ASIC released results of their surveillance project having identified companies for follow up and '... concerns with the application of an accounting standard or standards... These companies should be aware that we may take further action if these matters cannot be resolved.' (ASIC, 2003:p.1) The results issued by ASIC do not refer to increased compliance. However, based on results from the present thesis, ASIC's actions represent a positive step in improving understanding and compliance with mandated accounting standards.

While policies such as improving the communication through increasing the monitoring presence are desirable, they can only occur where resources are available. In Australia, resources available to ASIC to monitor listed public companies results in less than 20% coming under some kind of scrutiny each year (McCahey, 1998). Add to this the fact that the only full-time member of the Australian Accounting Standards Board is the AASB chair (the remaining members are 'part-timers') (Ravlic, 2000). Compare the latter with the seven full-time standard setters in the US that meet several times a month and it is clear that resources for standard setting, regulation and communication between Australian standard setters, regulators and auditors are less than optimal.

Findings in the present study demonstrate the need for further resources and improved communication in the external financial reporting environment. It provides evidence of an association between regulatory monitoring and auditor behaviour. In doing so, the research contributes to policy making and practice in both Australia and internationally.

7.4.3 Methodological Implications

As discussed in Chapters 2 and 3, previous research on the meaning of recognition criteria is criticized because it uses a within-subject design. While certain effects were intuitively appealing, the effects of within-subject designs on the meaning of recognition criteria had not been reported as tested. This study empirically tests and concludes that an association between research design (within-subject versus between-subject) and the meaning conveyed by recognition criteria does exist. In so doing it confirms the concerns about previous research in the area and contributes to the methodological considerations of future research.

7.5 Avenues for Future Research

As noted earlier, only Australian auditors are used in the sample. Given the different constraints, incentives and decision contexts experienced by financial controllers, shareholders and financial institutions, research with different types of subjects could also warrant investigation.

The present study establishes that, in some circumstances, the recognition decisions made by auditors fail to comply with, and are inconsistent with the process prescribed in accounting standards. The study does not address exactly what process the auditors are using. In Chapter 6 it is suggested that auditors may make value judgements about equitable decision outcomes and effectively use their own 'criteria' as a threshold for the recognition decision. However this is not tested and further work in the area is most certainly needed.

In the present study, compliance with the prescribed recognition decision process and the existence of a regulatory monitoring presence appear positively associated and increasing the regulatory monitoring presence appears to enhance communication

between auditors and standard setters. That is, auditors are seen to make decisions that are consistent with use of the recognition test as a threshold when the regulatory presence appears in case facts. What other factors may have similar effects? What are the magnitudes of these effects? Are auditors likely to be more sensitive to regulatory presence or to client pressure for less conservative decisions? Again, these represent potential and interesting avenues for future research.

7.6 Concluding Remarks

As part of an international harmonisation programme, the Australian Accounting Standards Board will implement a policy to adopt '... the Standards of the International Accounting Standards Board (IASB) for application to reporting periods beginning on or after 1 January 2005. The AASB is replacing relevant existing AASB standards with Australian Standards equivalent to those of the IASB' (AASB, 2004a: p. 5). As a consequence, many of the 'new' recognition criteria will incorporate the word 'probable' for reporting periods beginning on or after 1 January 2005.

For example, in the AASBs 'Framework for the Preparation and Presentation of Financial Statements', the recognition criteria for assets and liabilities revolves around the **probable** future flow of economic resources (AASB, 2004a: p. 31). This new framework will replace the existing conceptual framework embodied in 'SAC 4 Definition and Recognition of the Elements of Financial Statements' (discussed at length in Chapter 2). Having said that, post 1 January 2005, no substantive replacement for 'AASB 1022 Accounting for the Extractive Industries' will occur meaning the existing recognition criteria (using the term 'expected') will remain in force[6]. This same term (ie 'expected') is embedded in the criteria for the proposed new Australian accounting standard (ie IASB equivalent) addressing recognition of losses on construction contracts as expenses (AASB 2004b, p. 16). Further, within the proposed new Australian accounting standard (IASB equivalent) 'AASB 137 Provisions, Contingent Liabilities and Contingent Assets' 'where the future economic benefits

[6] The Australian Accounting Standards Board is scheduled to approve Accounting Standard AASB 6 Exploration for and Evaluation of Mineral Resources in December 2004 or January 2005. The present author's discussions with the AASB staff responsible for drafting AASB 6 confirm that AASB 6 will require Australian companies to continue using the same methodology which they were using under the requirements of AASB 1022. The present author's discussions with AASB staff took place 23 November 2004.

embodied in assets are ***probable*** but not ***virtually certain***, contingent assets and reimbursements would not be recognised on the balance sheet, whereas under AASB 1044 those assets would be recognised' (emphasis added) (AASBc, 2004: p. 8).

In summary, post 1 January 2005, Australian accounting standards will prescribe the use of probability terms such as 'expected', 'probable' and 'virtually certain' within recognition criteria for financial statement elements. Particularly with respect to the use of 'probable', this is consistent with the authoritative pronouncements in countries such as Canada, the United Kingdom (UK) and the United States of America (US). By analytic review, this thesis highlights the absence of shared meaning between standard setters and the regulator about 'probable', 'expected', and 'virtually certain'. By experiment, the study demonstrates that auditors do not share meaning with either body about the meaning of those terms or the recognition decision process itself. If, as is expected, Australia is to continue down the international harmonisation path, far better communication is required between all three parties. It is critical that they share meaning to avoid sub-optimal usage of resources. To facilitate the sharing of meaning about important accounting recognition terminology, it will require a better understanding of the objectives, constraints and incentives that affect meaning, judgements and ultimately decision outcomes. Just as importantly, it will require communication through messages that have considered and acknowledged those differing objectives, constraints and incentives.

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APPENDIX

PROBABILITY EXPRESSION RESEARCH INSTRUMENT

GROUP 1

GENERAL INSTRUCTIONS

The following research instrument is gathering information from experienced auditors about an expression currently used in an Australian accounting standard. The accounting standard has been placed in the appendix should you need to refer to it. The research is concerned with judgements that you make in your working environment and we would like you to provide answers that reflect your judgements in the "real world" environment.

Part A contains one question on the numerical level of probability that you associate with a particular probability expression.

Part B contains four real (though simplified) cases and for each case you are asked to make three judgements. Even if you feel that there is not enough information please endeavour to work with the information available to you.

Part C contains one question dealing with your beliefs about the meaning of a particular probability expression.

Finally, Part D contains some general questions and some questions concerning biographical details.

You should complete the questionnaire without consulting your peers but please speak with the person coordinating this research if you have <u>any</u> queries. Once you have answered a question move on to the next question and do not go back and change any previous answers.

We appreciate your participation in this research and stress that there are **no "trick" questions** and **no right or wrong answers** to the questions being asked.

PART A

AASB 1020 clause .12 states that future income tax benefits attributable to timing differences should not be recognised in the balance sheet unless it is assured beyond any reasonable doubt that these benefits will be realised.

What is the minimum level of numerical probability (between 0 - 100% inclusive) that you believe to be equal to the expression "assured beyond any reasonable doubt"?

"Assured beyond any reasonable doubt" means at least - _____%

PART B

CASE 1

Quadstrad Ltd was incorporated in 1956. In July 1992 it became a publicly listed company on the Sydney stock exchange. Its principal activities are thoroughbred horse breeding, real estate development and it has significant interests in the retail motor vehicle industry. The management of the company has not changed significantly in the past ten years and there is no reason to expect any change in the future. The company has consistently derived sound profits (despite a severe recession) over the past four years and the share price has reflected great confidence in the company's ability to derive future profits. The company's total asset/total liability ratio is far better than the industry average and the company has never sustained a tax loss. In the current financial year ending 30 June 1994 the company's profits were again sound and above the industry average. The predictions for future economic, industrial and legislative conditions in Australia are the same as those that you are currently applying in your working environment.

REQUIRED

Assume you are the auditor for Quadstrad Ltd in the current financial year ended 30 June 1994 and you are assessing the situation with respect to carrying forward future income tax benefits attributable to timing differences.

1. Given the facts of the case, how confident are you that the company will realise the future income tax benefits if they are carried forward?

   Please express your answer in terms of a numerical probability between 0 - 100% (inclusive). ____%

2. What is the minimum level of numerical probability (between 0 - 100% inclusive) that you believe to be equal to the phrase "assured beyond any reasonable doubt"?

   "Assured beyond any reasonable doubt" means at least - ____%

3. Would you recognise the future income tax benefits as an asset on the balance sheet for the year ended 30 June 19X4?

   Circle your response: YES / NO

CASE 2

Palcec Ltd is a publicly listed company. It is recognised as being one of the market leaders in the manufacture of cement and related products in Australia. Palcec Ltd has, in the last ten years, generated profits with an average annual growth rate of 14% however in the last three years Palcec Ltd's profits have averaged a growth rate of 3%. The directors of the company have described the downturn in the last three year's results as due to the economic climate (which was in a severe recession) and encouragement by state governments to see vacant properties given alternative uses (e.g. inner city apartments). The company's management changed significantly four years ago but has not changed since. In the current financial year (30/6/X4) industrial problems contributed to the company's profits being slightly less than the previous year. These industrial problems have all been resolved. The company has never been in a tax loss situation and its assets, if disposed of today, would easily cover the claims of both creditors and shareholders. The predictions for future economic, industrial and legislative conditions in Australia are the same as those that you are currently applying in your working environment.

REQUIRED

Assume you are the auditor for Palcec Ltd in the current financial year ended 30 June 19X4 and you are assessing the situation with respect to carrying forward the future income tax benefits attributable to timing differences.

1. Given the facts of the case, how confident are you that the company will realise the future income tax benefits if they are carried forward?

   Please express your answer in terms of a numerical probability between 0 - 100% (inclusive). ____%

2. What is the minimum level of numerical probability (between 0 - 100% inclusive) that you believe to be equal to the phrase "assured beyond any reasonable doubt"?

   "Assured beyond any reasonable doubt" means at least - ____%

3. Would you recognise the future income tax benefits as an asset on the balance sheet for the year ended 30 June 19X4?

   Circle your response: YES / NO

CASE 3

Vaughan Ltd is a publicly listed company which specialises in the manufacture of steel castings and related products in Australia. In the last three years Vaughan Ltd's after tax profits have been small by industry standards and the company will report an operating loss in the current financial year ended 30 June 19X4. The directors have described these results as due to the economic climate (which was in a severe recession), the costs incurred in shifting premises and aggressive competition. In addition the company faced industrial problems most of which have now been resolved. The directors hope that the remaining problems will be resolved with the aid of recently appointed industrial relations personnel. The company is not in a tax loss situation nor carrying forward any tax losses. During the current financial year Vaughan Ltd completed a contract which provided 15% of its total revenue for the year. If this contract cannot be replaced with a similar contract(s) in the next financial year Vaughan Ltd will record a tax loss. The company's total asset/total liability ratio is approximately 1.5 : 1. The company's share price has facilitated no capital gains in the past year and it did not pay a dividend in the current financial year. The predictions for future economic, industrial and legislative conditions in Australia are the same as those that you are currently applying in your working environment.

REQUIRED

Assume you are the auditor for Vaughan Ltd in the current financial year ended 30 June 19X4 and you are assessing the situation with respect to carrying forward the future income tax benefits attributable to timing differences.

1. Given the facts of the case how confident are you that the company will realise the future income tax benefits if they are carried forward?

   Please express your answer in terms of a numerical probability between 0 - 100% (inclusive). ____%

2. What is the minimum level of numerical probability (between 0 - 100% inclusive) that you believe to be equal to the phrase "assured beyond any reasonable doubt"?

   "Assured beyond any reasonable doubt" means at least - ____%

3. Would you recognise the future income tax benefits as an asset on the balance sheet for the year ended 30 June 19X4?

   Circle your response: YES / NO

CASE 4

Victoria Ltd is a publicly listed company operating in Australia in the construction industry. Its management has not changed significantly in the last five years and over this period the company's after tax profits have been average by industry standards. The company will report a small operating loss in the current financial year ended 30 June 19X4. The directors have been concerned by loss of market share to recent competition from internationally based competitors and they hope that this problem will be rectified by the appointment of personnel who had, up until recently, previously held senior positions with the international competitors. The company is not in a tax loss situation nor carrying forward any tax losses. The company's total assets would cover its liabilities and shareholder funds if the company were to be liquidated. The company's share price has facilitated only small capital gains and it did not pay a dividend in the current financial year. The predictions for future economic, industrial and legislative conditions in Australia are the same as those that you are currently applying in your working environment.

REQUIRED

Assume you are the auditor for Victoria Ltd in the current financial year ended 30 June 19X4 and you are assessing the situation with respect to carrying forward the future income tax benefits attributable to timing differences.

1. Given the facts of the case, how confident are you that the company will realise the future income tax benefits if they are carried forward?

   Please express your answer in terms of a numerical probability between 0 - 100% (inclusive). ____%

2. What is the minimum level of numerical probability (between 0 - 100% inclusive) that you believe to be equal to the phrase "assured beyond any reasonable doubt"?

   "Assured beyond any reasonable doubt" means at least - ____%

3. Would you recognise the future income tax benefits as an asset on the balance sheet for the year ended 30 June 19X4?

   Circle your response: YES / NO

PART C

In this part of the questionnaire we are interested in your opinions on a particular probability expression which is used in an Australian accounting standard. Though you may feel it is difficult to generalise, we would like you to express your opinions as accurately as you can. As with your responses in Part A and B **there are no right or wrong answers**.

We want you to describe your opinions about a particular probability expression using certain scales (known as "adjectival pairings" e.g. CONTROLLABLE : UNCONTROLLABLE or GOOD : BAD). The following instructions are to be used in completing the questionnaire:

1. Please indicate your response to each scale by placing a cross (X) in the space that best describes your response.

   For example, if you feel that the probability expression is a concept that tends to be something which is controllable indicate this as below:

   CONTROLLABLE : X : _ : _ : _ : _ : _ : UNCONTROLLABLE

   If on the other hand you feel that the probability expression is a concept that tends to be uncontrollable, indicate this as below:

   CONTROLLABLE : _ : _ : _ : _ : _ : X : UNCONTROLLABLE

   If think the scale (adjectival pairing) is irrelevant to describing the probability expression then place a cross (X) on the mid-point of the scale as indicated below:

   CONTROLLABLE : _ : _ : _ : X : _ : _ : _ : UNCONTROLLABLE

2. If the probability expression has no meaning to you (i.e. you have no idea what the expression means) then **do not** place a cross on **any** of the scales. Instead place a cross (X) in the box labelled "NO MEANING".

Turn the page to complete this part of the questionnaire.

"AASB 1020 Accounting For Income Tax (Tax-Effect Accounting) Accounting" clause .12 indicates that it must be "assured beyond any reasonable doubt" that future income tax benefits, attributable to timing differences, will be realised before they can be recognised as an asset on the body of the balance sheet. With respect to recognising future income tax benefits on the balance sheet the phrase "assured beyond any reasonable doubt" tends to be:

EXACT : _ : _ : _ : _ : _ : _ : ESTIMATED

BAD : _ : _ : _ : _ : _ : _ : GOOD

MEASURABLE : _ : _ : _ : _ : _ : _ : UNMEASURABLE

NECESSARY : _ : _ : _ : _ : _ : _ : UNNECESSARY

PLANNED : _ : _ : _ : _ : _ : _ : UNPLANNED

OBJECTIVE : _ : _ : _ : _ : _ : _ : SUBJECTIVE

TANGIBLE : _ : _ : _ : _ : _ : _ : INTANGIBLE

STRONG : _ : _ : _ : _ : _ : _ : WEAK

INDIRECT : _ : _ : _ : _ : _ : _ : DIRECT

VARIABLE : _ : _ : _ : _ : _ : _ : CONSTANT

SAFE : _ : _ : _ : _ : _ : _ : RISKY

COMPLETE : _ : _ : _ : _ : _ : _ : INCOMPLETE

DISCRETIONARY : _ : _ : _ : _ : _ : _ : REQUIRED

REAL : _ : _ : _ : _ : _ : _ : IMAGINARY

BENEFICIAL : _ : _ : _ : _ : _ : _ : ADVERSE

TEMPORARY : _ : _ : _ : _ : _ : _ : PERMANENT

CONTROLLABLE : _ : _ : _ : _ : _ : _ : UNCONTROLLABLE

UNEXPECTED : _ : _ : _ : _ : _ : _ : EXPECTED

PASSIVE : _ : _ : _ : _ : _ : _ : ACTIVE

STATIC : _ : _ : _ : _ : _ : _ : DYNAMIC

LONG TERM : _ : _ : _ : _ : _ : _ : SHORT TERM

INFLEXIBLE : _ : _ : _ : _ : _ : _ : FLEXIBLE

☐The expression has NO MEANING for me.

PART D

1. Did you understand the question that was asked in Part A of this questionnaire?

   Circle the correct response: YES / NO

2. If your answer to question 1 was "NO" please explain below. If your answer was "YES" to question 1 proceed to question 3.

   _____

   _____

   _____

   _____

   _____

3. Did you understand all the questions asked in Part B of this questionnaire?

   Circle the correct response: YES / NO

4. If your answer to question 3 was "NO" please explain below. If your answer was "YES" to question 3 proceed to question 5.

   _____

   _____

   _____

   _____

   _____

5. In Part B of this questionnaire you were asked to make judgements in the context of four real though simplified cases. Due to the nature of this research the cases had to be brief and simplified. For example, information about your own time and budget constraints, cashflow forecasts and client budgets, first hand knowledge of the company and other issues that you would normally face in your daily working environment could not be provided. The following question is <u>not</u> asking about these matters or about the quality of the information you were provided with. The following question is asking for your opinion about the three <u>decisions</u> that you were asked to make in each of the cases. When answering the question place a cross (X) in the space which best reflects your answer.

Would you agree or disagree with the following statement:

Although the information in the cases was brief and simplified, the actual decisions that you were asked to make in Part B are similar to the decisions that you make in your working environment.

AGREE **I : : : : : : I** DISAGREE

6. Did you understand the question asked in Part C of this questionnaire?

Circle the correct response: YES / NO

7. If your answer to question 6 was "NO" please explain below. If your answer was "YES" to question 6 proceed to question 8.

_____

_____

_____

_____

_____

8. What is the minimum numerical level of probability (with respect to the realisation of future economic benefits) that <u>you</u> think should be reached before you would recognise an asset on the balance sheet?

The asset recognition probability should be at least: _____ %

9. What is the minimum numerical level of probability (with respect to incurring future economic losses) that you think should be reached before you would recognise a liability on the balance sheet?

The liability recognition probability should be at least: _____%

10. Would your answer to questions 8 and/or 9 change depending upon the facts of the case?

Circle the correct response: YES / NO

Briefly explain:

_____

_____

_____

_____

_____

11. How many years have you worked as an auditor?: _____yrs.

12. Is there anything that you wish to comment on in regard to this questionnaire?:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Many thanks - your participation is greatly appreciated.

APPENDIX

AASB 1020: Accounting for Income Tax (Tax-Effect Accounting)

Introductory Comments by the Technical Editors (I. L-S: Amended CWP 1991)

The following introductory note has been prepared by the Technical Editors and does NOT form part of the approved accounting standard.

Approved accounting standard ASRB 1020: Accounting for Income Tax (Tax-effect Accounting) was approved on 30 October 1989 and is effective for financial years ending on or after 31 December 1989. Unlike earlier ASRB standards this standard has been approved on an interim basis only and will be subject to a further detailed review by the ASRB. The standard was approved following the issue of ASRB Release 416: Consideration by the Accounting Standards Review Board of Accounting Standards AAS 1, 2, 3, 4 and 7 for Interim Approval and Certain Proposed Amendments to such Standards in January 1989. The provisions relating to the treatment of changes in income tax rates foreshadowed in ASRB Release 416 have been implemented. The corresponding AAS standard, AAS 3, was reissued in November 1989 incorporating the changes in ASRB 1020. Guidance on the implementation of the AAS 3 is contained in AAG 2 "Accounting for a Change in the Rate of Company Income Tax" [December 1985], AAG 4 "Accounting for the Intra-group Transfer of Tax Losses" [December 1985], AAG 6 "Accounting for the Fringe Benefits Tax" [July 1987], AAG 7 "Accounting Implications of Dividend Imputation" [August 1987] and AAG 8 "Accounting for the Capital Gains Tax" [September 1987]. The subsequent reissue of AAS 3 has not impaired the authority of the guidance provided in these releases, but it should be noted that neither AAG 4, or AAG 6, nor AAG 8 has been given express approval by the ASRB.

Although the power of the ASRB to issue standards under section 266B of the *Companies Code* is limited to companies, other entities may be required by other laws to comply with standards approved by the ASRB under the *Companies Code*. The obligation of members of the Australian Society of Certified Practising Accountants and the Institute of Chartered Accountants in Australia to comply with AAS standards, when there is a corresponding ASRB standard, is explained in the 1990 reissue APS 1 "Conformity with Statements of Accounting Concepts and Accounting Standards", as being limited to reporting entities *other than* those "required by legislation, ministerial directive or other government authority to comply with applicable Approved Accounting Standards" [paragraphs 6 and 9]. This policy change was announced on 30 May 1989 and was immediately effective.

In July 1991, the Australian Accounting Standards Board issued Accounting Standard AASB 1025: Application of the Reporting Entity Concept and Other Amendments. Notice of the approval of this Standard was published in the Commonwealth of Australia Gazette on 23 August 1991. The Standard applies to financial years ending on or after 30 June 1992. Subsection 285(3) of the Corporations Law allows directors of a company to elect in writing that a Standard made under section 32 of the Corporations Act 1989 which has not yet come into operation (i.e., does not apply to the particular financial year, apart from sub-section (4)) shall apply to the financial year.

The principal objective of AASB 1025 is to put into place in all ASRB Standards the AASB's policies concerning the reporting entity concept, the application of materiality, interpretation provisions and transitional provisions. In respect of ASRB 1020, amendments are made to Citation (1020.00), Application (1020.02), Interpretation (1020.04), Materiality (1020.05), Definitions (1020.06), and Transitional (1020.50) clauses.

End of Introductory Comments by the Technical Editors

Citation

.00 This standard, with the exception of the words shown in italics, may be cited as Approved Accounting Standard ASRB 1020: Accounting for Income Tax (Tax-effect Accounting).

Endorsed explanatory material

.01 The words shown in italics do not form part of the standard. They are published with the standard as an aid to its interpretation.

Explanatory material is set out in two ways:
(a) immediately after certain of the requirements; and
(b) as a commentary at the end of the standard.

Application

.02 This standard applies to each company in relation to its first financial period that ends on or after 31 December 1989, and in relation to subsequent financial periods of the company.

Notice of approval of this standard was published in the Commonwealth of Australia Gazette on 30 October 1989.

In all cases, compliance with a requirement of a standard is subject to any relevant provision of the Code.

Statement of purpose

.03 The purpose of this standard is:
(a) to specify the method for determining income tax expense, provision for income tax, provision for deferred income tax and future income tax benefit; and
(b) to require disclosure in the accounts and group accounts of information in relation to income tax expense, provision for income tax, provision for deferred income tax and future income tax benefit;
so that users entitled to rely on the accounts or group accounts are provided with information on the impact of tax on the income of companies under provisions of the Australian Income Tax Assessment Act 1936 (and of any applicable foreign tax legislation) which is necessary for an understanding of the financial position, performance, and financing and investing of the company or group of companies.

Interpretation

.04 Where there is a conflict between the interpretation of a provision of this standard and the statement of purpose, the statement of purpose shall prevail.

Application of materiality: Accounting for Income Tax

.05 Information about accounting for income tax is material if its omission, non-disclosure or mis-statement is likely to affect economic decisions or other evaluations made by users entitled to rely on the accounts or group accounts.

Definitions

.06 In this standard unless the contrary intention appears:

"brought to account" means recognised in the accounts or group accounts, otherwise than by way of note;

"Code" means, where this standard applies in –
(a) the Australian Capital Territory – the Companies Act 1981, and the regulations made under that Act; or
(b) a State or the Northern Territory – the Companies Code of a State or the Northern Territory, as defined in the Companies (Application of Laws) Act of that State or the Northern Territory and the regulations applying under that Code;
(a) accounts of a corporation referred to in paragraph 158(5)(b) of the Code or, where that corporation is a holding company, the group accounts prepared in accordance with that paragraph – the period of six months after the end of the financial year of that corporation;
(b) a set of consolidated accounts of a borrowing corporation and each guarantor corporation referred to in paragraph 158(6)(b) of the Code – the period of six months after the end of the financial year of the borrowing corporation; or
(c) the accounts or group accounts of any other corporation – the financial year of the corporation;

"future income tax benefit" means the estimated amount of future saving in income tax likely to arise as a result of:
(a) the reversal of timing differences; and
(b) the recoupment of carried forward tax losses (which for the purposes of this standard are dealt with separately from other timing differences);

"income tax expense" means the amount of income tax which would be payable on the pre-tax accounting profit adjusted for permanent differences. The term "income tax benefit" is used to describe this amount where it is a net credit;

"income tax payable" means the amount of income tax calculated on the taxable income of a company for the financial period;

"permanent differences" means differences between taxable income or tax loss and pre-tax accounting profit or loss arising from the existence of:
(a) particular expenses and particular items of revenue, which, under current income tax legislation, will never be included in the determination of taxable income or tax loss although they are brought to account in the profit and loss account; and
(b) particular amounts which are allowable deductions or which are assessable income for income tax purposes although these amounts will never be brought to account in the profit and loss account;

"pre-tax accounting profit or loss" means the aggregate of the operating profit or loss and the extraordinary items for a given financial period before charging the related income tax expense or before crediting the related future income tax benefit;

"provision for deferred income tax" means the non-current liability for the estimated amount of income tax expected to be assessed in the future as a result of the reversal of timing differences;

"provision for income tax" means the current liability for the estimated amount of income tax which is assessable on the taxable income of the company for the current and prior financial periods (to the extent that such tax has not been already paid);

"taxable income" means the excess of assessable income over allowable deductions calculated according to the provisions of the applicable income tax legislation ("tax loss" means the converse); and

"timing differences" means differences between pre-tax accounting profit or loss and taxable income or tax loss for a given financial period

and expense are included in the determination of the pre-tax accounting profit or loss does not coincide with the financial period in which they are included in the determination of taxable income or tax loss.

Each timing difference originates in one financial period and is reversed, or "turns around", in one or more subsequent financial periods.

Relevant provisions of the Code include:

Sub-section 266E(1): "Unless the contrary intention appears in the accounting standard, an expression used in an approved accounting standard has the same meaning as the expression has in this Part [Part VI]".

Sub-section 5(1): definition of "financial year" and "profit and loss account".

Sub-section 7(1): definition of "subsidiary".

Sub-section 266(1): definition of "accounts", "group accounts" and "group of companies".

Determination of income tax expense, provision for deferred income tax and future income tax benefit

.10 The amount of the income tax expense attributable to the transactions included in the profit and loss account for a financial period shall be brought to account in that profit and loss account irrespective of whether the income tax is currently payable, or has already been paid, or will become payable in the future. The amount of such income tax expense shall be calculated on the pre-tax accounting profit or loss, adjusted for permanent differences (if any), by using the liability method of tax-effect accounting. Where the permanent differences are material, a note to the accounts and group accounts shall state their general nature and the extent to which they have affected the amount of income tax expense.

.11 If in respect of a financial period the income tax payable differs from the income tax expense, the amount of the difference:
(a) shall be brought to account and disclosed as a liability, described as "provision for deferred income tax", to the extent that the difference arises from timing differences caused by the present deductibility for tax purposes of expenses deferred for accounting purposes and/or the present non-assessability for tax purposes of revenue included in the determination of pre-tax accounting profit or loss; and
(b) shall, subject to the provisions of clauses .12 and .13, be brought to account and disclosed as an asset, described as "future income tax benefit", to the extent that the difference arises from timing differences caused by the present non-deductibility for tax purposes of expenses included in the determination of the pre-tax accounting profit or loss and/or the current assessability for tax purposes of revenue items deferred for accounting purposes.

For endorsed comment on clauses .10 and .11 see:

Paragraphs (ii) and (iii): Differences between taxable income or tax loss and pre-tax accounting profit or loss

.12 A future income tax benefit referred to in clause .11 shall only be carried forward as an asset where realisation of the benefit can be regarded as being assured beyond any reasonable doubt. Realisation shall depend upon:
(a) the ability of the company to derive future assessable income of a nature and of sufficient amount to enable the benefit to be realised;
(b) the ability of the company to continue to comply with the conditions for deductibility imposed by law; and
(c) an expectation that legislation will not change in a manner which would adversely affect the company's ability to realise the benefit.

.13 In the case of companies which incur losses, any future income tax benefit shall not be brought to account as an asset unless realisation of the benefit is virtually certain. Where any part of a future income tax benefit carried forward as an asset is attributable to tax losses, that part shall be separately disclosed by way of note in the accounts and group accounts.

.14 Where a provision for deferred income tax exists and a company incurs a tax loss, the future income tax benefit attributable to the tax loss shall be brought to account as a reduction of the provision for deferred income tax to the extent that deferred income tax has already been provided in respect of timing differences which will reverse within the financial periods during which the tax loss will remain available as a deduction from assessable income. The amount representing the reduction in the provision shall be shown in the accounts and group accounts by way of note or otherwise and described as "provision for deferred income tax no longer required". The extent to which the provision for deferred income tax is reduced by future income tax benefits attributable to tax losses shall be separately disclosed by way of note in the accounts and group accounts of each financial period while the losses remain available as a deduction.

.15 To the extent that a future income tax benefit attributable to tax losses has not been recognised as an asset or as a reduction in a provision for deferred income tax and there is a possibility that the tax losses will be recouped in accordance with tax legislation, the future income tax benefit expected to arise from the recoupment shall be shown by way of a note to the accounts and group accounts. The note shall state that the benefit will only be obtained if:
(a) the company derives future assessable income of a nature and of an amount sufficient to enable the benefit from the deductions for the loss to be realised;
(b) the company continues to comply with the conditions for deductibility imposed by tax legislation; and
(c) no changes in tax legislation adversely affect the company in realising the benefit from the deductions for the loss.

.16 In any financial period in which past income tax losses are recouped, the income tax expense for that financial period, determined in accordance with clause .10 above, shall be brought to account in the profit and loss account in the normal way, and –
(a) to the extent that the future income tax benefit attributable to such losses has not been brought to account (or if it had been brought to account and subsequently reversed) – the tax benefit derived from the

(b) if a future income tax benefit had been previously brought to account in relation to tax losses – that future income tax benefit shall be reduced by the amount of the realised tax benefit; or
(c) if a provision for deferred income tax had been previously reduced or eliminated – the excess of the income tax expense (less the amounts, if any, already dealt with under paragraphs (a) and (b) above) over the income tax currently payable shall be added to the provision for deferred income tax so that when the past tax losses are recouped and income tax becomes payable the provision will be sufficient to cover the income tax which becomes payable as the related timing differences reverse.

.17 Where differences arise between the amount of the income tax payable in respect of a financial period and the income tax expense for the same financial period, and some or all of the differences arise because of reversals of timing differences brought to account in prior financial periods, the differences attributable to such reversals shall be adjusted against the balance shown in the future income tax benefit account, or provision for deferred income tax account. At each balance date a transfer shall be made from the provision for deferred income tax to the provision for income tax of any portion of the first-mentioned provision which has become a current liability as a result of the reversal of timing differences.

For endorsed comment on clauses .12 to .17 see:

Paragraphs (viii) to (xii): Future income tax benefits

.18 Except in the case of group accounts, a provision for deferred income tax shall be offset against future income tax benefit brought to account, to the extent that income tax covered by the provision is likely to become payable in the same financial periods as the future income tax benefit is expected to become realisable.

Group accounts

.20 A future income tax benefit brought to account by one company in a group of companies shall not be offset against a provision for deferred income tax brought to account by another company in the group of companies, when drawing up group accounts.

Taxes on distribution of profits and reserves

.30 Where accounts or group accounts include profits and reserves of branch operations or subsidiaries which, on distribution to the company or holding company, will be subject to overseas withholding tax or to further Australian income tax, the reduction which this future tax will impose on the amount ultimately available to the company or holding company shall be brought to account as provision for deferred income tax in the accounts or group accounts unless there is evidence that the company or holding company intends to leave those profits and reserves indefinitely in the hands of the branch operations or subsidiaries.

Changes in income tax rates

.40 Whenever there is a change in the income tax rate, either or both of the provision for deferred income tax and the future income tax benefit brought forward from the previous financial period shall be adjusted accordingly. If the adjustment is material, the corresponding amount brought to account in the profit and loss account shall be disclosed.

Transitional provision

.50 Where the accounting treatments required by this standard are not already being applied at the date this standard is first applied they shall be applied retrospectively. Where this gives rise to initial adjustments, the net amount of these adjustments shall, in accordance with clause .11 of Approved Accounting Standard ASRB 1018: Profit and Loss Accounts, be adjusted against retained profits or accumulated losses at the beginning of the financial period in which this standard is first applied.

COMMENTARY

Differences between taxable income or tax loss and pre-tax accounting profit or loss

(i) Under Australian income tax legislation, the amount of tax levied against a company is based upon its taxable income or tax loss which will often differ in amount from its pre-tax accounting profit or loss because of permanent and timing differences.

(a) Permanent differences

(ii) Permanent differences alter the incidence of income tax in relation to the pre-tax accounting profit or loss of the financial period in which they occur, but do not affect income tax calculations in respect of subsequent financial periods. An example of an item creating a permanent difference under present income tax legislation is non-allowable depreciation on buildings.

(b) Timing differences

(iii) Timing differences will result in the amount of income tax expense being either greater or less than the income tax payable for the financial periods in which the differences originate and then reverse. Four sets of circumstances give rise to timing differences:
(a) items of revenue included in the determination of pre-tax accounting profit or loss before they are included in taxable income or tax loss, for example, gross profits on instalment sales brought to account for accounting purposes in the financial period of sale but assessable for tax purposes in the financial periods during which the instalments are collected;
(b) expenses deducted in determining taxable income or tax loss before they are deducted in the determination of pre-tax accounting profit or loss, for example, research and development costs deducted for tax purposes as incurred but carried forward in the accounts to be charged against future revenue;
(c) items of revenue included in taxable income or tax loss before they are included in the determination of pre-tax accounting profit or loss, for example, rents or insurance premiums collected in advance and reported for tax purposes in the financial period in which they are received but deferred

for accounting purposes until later financial periods when they are recognised as being earned; and

(d) expenses deducted in the determination of pre-tax accounting profit or loss before they are deducted in the determination of taxable income or tax loss, for example, provisions for guarantees and product warranties, or provision for long service leave made for accounting purposes on an estimated basis in the financial period in which the related revenue is brought to account, but only allowed for tax purposes in later financial periods when payment is made or when the liability becomes certain.

The liability method of tax-effect accounting

(iv) *The liability method (sometimes referred to as the accrual method) is based on the assumption that a provision for deferred income tax arises whenever:*

(a) *an item of revenue is recognised in the determination of pre-tax accounting profit or loss before it is included in taxable income or tax loss; or*

(b) *an expense is deducted in calculating taxable income or tax loss before it is recognised in the determination of pre-tax accounting profit or loss;*

and conversely, that an asset in the nature of a future income tax benefit arises whenever:

(c) *an item of revenue is included in taxable income or tax loss before it is recognised in the determination of pre-tax accounting profit or loss; or*

(d) *an expense is recognised in the determination of pre-tax accounting profit or loss before it is deducted in calculating taxable income or tax loss.*

(v) *The estimated amounts of this liability and this asset are determined by calculating the difference between income tax expense and income tax payable, using the tax rate or rates that are expected to apply when the underlying timing differences reverse. The estimates are later amended if the expected tax rates change or new taxes are imposed.*

(vi) *The adoption of the liability method thus results in income tax expense being accrued in the same way as any other expense. Where timing differences have the effect of postponing the payment of tax, the liability method results in both the matching of expense with revenue and the bringing to account of the liability for income taxes payable in the future. Timing differences which result in the prepayment of income tax are also brought to account as assets in order to avoid overstating expenses in the financial periods in which the timing differences originate, and understating expenses in the financial periods in which these differences reverse.*

(vii) *Accounts and group accounts prepared using the liability method of tax-effect accounting will at all times show any provision for deferred income tax and any future income tax benefit at the tax rates that, at the time the accounts and group accounts are prepared, are expected to apply when the underlying timing differences reverse. On this basis, provision for deferred income tax and future income tax benefits are generally measured using the current rate of income tax.*

intention to change the rate of income tax to another specified rate is normally accepted as adequate evidence that a change to that rate will occur.

Future income tax benefits

(viii) *Tax-effect accounting procedures can be expected to give rise to provision for deferred income tax in respect of timing differences and future income tax benefits in respect of both timing differences and tax losses. Whilst there would appear to be no reason to question the bringing to account of provision for deferred income tax attributable to timing differences and the carrying forward of such a provision under tax-effect accounting procedures, it would appear to be necessary and appropriate to examine the asset which arises on the application of tax-effect accounting procedures to determine whether or not in all cases it is appropriate to carry forward such an asset to future financial periods.*

(ix) *Accounting principles normally require a write-down of assets where they are not expected to realise their carrying amounts. In accordance with these principles, future income tax benefits carried forward as assets are examined to determine whether realisation of the related benefit is assured beyond any reasonable doubt. In considering this matter it should be noted that realisation will take the form of a charge against future pre-tax accounting profit or loss and therefore the ability of a company to earn adequate profits and taxable income in future financial periods must be assured beyond any reasonable doubt if future income tax benefits are to be brought to account as assets. A determination as to the ability of a company to earn a sufficient level of profits in future financial periods will be influenced by whether or not a company has a history of profitable operations and is currently profitable.*

(x) *Where a company incurs a tax loss, significant doubts must arise as to the ability of such a company to realise the related future income tax benefit and in these circumstances it is considered that it would be imprudent to bring to account as an asset the future income tax benefit attributable to the tax loss unless realisation of the benefit is virtually certain. It is considered that this test of virtual certainty will only be met in rare and exceptional cases. However, where a company incurs a tax loss, realisation of the future income tax benefit can, to some extent, be regarded as virtually certain where there is already in existence as a liability, a provision for deferred income tax. The extent to which realisation can be regarded as virtually certain is the extent to which deferred income tax has already been provided in respect of timing differences which will reverse in the financial periods during which the tax loss will remain available as a deduction. In these circumstances, when a loss is incurred, the benefit of the tax loss arising therefrom can be treated as effectively realised (and can be brought to account in the form of a reduction in the provision for deferred income tax) on the basis that the tax provided as a cover against the future reversal of timing differences will not become payable whilst the tax loss remains unrecouped and available as a deduction from future assessable income.*

(xi) *Since it is not appropriate to draw a distinction between:*

(a) *the ability of a company which incurs a loss to realise the future income tax benefit attributable to the loss; and*

(b) *the ability of such a company to realise a future income tax benefit attributable to timing differences;*

it would be appropriate in the case of such a company to apply the same test of virtual certainty as to realisation in determining whether the company should

(xii) *Where a company which incurs a tax loss has either not brought to account a future income tax benefit attributable to that loss or has written off future income tax benefits brought forward in relation to timing differences, there would be no reason to preclude such a company from recording such benefits as assets in a later financial period should it return to profitable operations and meet the requirement as to virtual certainty of realisation.*

Revaluations and disposals of depreciable assets

(xiii) *Where a revaluation of an asset which is depreciable for income tax purposes has resulted in an increase in the amount at which that asset is carried in the accounts and group accounts, this increase is depreciated over the remaining useful life of the asset. As the additional depreciation charge is not an allowable deduction for income tax purposes, the revaluation results in a permanent difference in subsequent financial periods between pre-tax accounting profit or loss and taxable income or tax loss which is taken into account in determining the amount of income tax expense.*

(xiv) *Where the amount received on the disposal of a depreciable asset exceeds its depreciated value, a liability for income tax may arise in respect of all or part of the excess. Where an election is made under sub-section 59(2A) of the Income Tax Assessment Act 1936 to reduce the cost, for the purpose of calculating depreciation allowable under this Act, of other units of property by the assessable portion of the excess, that amount is treated as a timing difference.*

Interim accounts and group accounts

(xv) *The calculation of the income tax expense to be shown in interim accounts and group accounts is based on the tax rate expected to be applicable for the full financial year, and reflects the incidence of any permanent differences and timing differences which have been caused by transactions or events during the period covered by the interim accounts and group accounts.*

PROBABILITY EXPRESSION RESEARCH INSTRUMENT

GROUP 2

GENERAL INSTRUCTIONS

The following research instrument is gathering information from experienced auditors about an expression currently used in an Australian accounting standard. The accounting standard has been placed in the appendix should you need to refer to it. The research is concerned with judgements that you make in your working environment and we would like you to provide answers that reflect your judgements in the "real world" environment.

Part A contains one question on the numerical level of probability that you associate with a particular probability expression.

Part B contains two real (though simplified) cases and for each case you are asked to make three judgements. Even if you feel that there is not enough information please endeavour to work with the information available to you.

Part C contains one question dealing with your beliefs about the meaning of a particular probability expression.

Finally, Part D contains some general questions and some questions concerning biographical details.

You should complete the questionnaire without consulting your peers but please speak with the person coordinating this research if you have any queries. Once you have answered a question move on to the next question and do not go back and change any previous answers.

We appreciate your participation in this research and stress that there are **no "trick" questions** and **no right or wrong answers** to the questions being asked.

PART A

AASB 1019: Measurement and Presentation of Inventories in the Context of the Historical Cost System clause .11 specifically refers the reader to paragraphs (i) and (ii) of the Commentary within AASB 1019. Paragraphs (i) and (ii) of the Commentary state the following:

The general basis of inventory measurement

(i) *Inventories are acquired in the expectation of deriving revenue, directly or indirectly, from their sale or use in producing finished goods. In order to determine the profit or loss of a company for a financial period by an appropriate matching of revenues and expenses, it is necessary to carry forward the costs related to the acquisition of inventories until the inventories are sold or used up. Thus, in historical cost accounting, the principal basis for stating inventories held at balance date is cost.*

(ii) *However, if it is not* ***probable*** (emphasis added) *that there will be sufficient revenue to cover the cost incurred as a result, for example, of deterioration, obsolescence or a change in demand, it is necessary that any irrecoverable cost be brought to account as an expense in the current financial period. Thus, inventories normally are stated at net realisable value if this is lower than cost.*

What is the minimum level of numerical probability (between 0 – 100%) that you believe to be equal to the expression "probable"?

"Probable" means at least - _____ %

PART B

CASE 1

Quadstrad Ltd is a publicly listed company incorporated in 1986. Its principal activity is the manufacture and distribution of children's toys. During the 1996 financial year Quadstrad Ltd acquired the rights to manufacture and distribute a doll (called the "Jaxon Man" doll) which was essentially a replica of an extremely famous and popular rock music personality. As at May 1996 Quadstrad Ltd had manufactured a material level of the Jaxon Man dolls which represented some 25% of its inventory. During May and June 1996 the music personality was involved in a highly publicised scandal which threw some doubt over the marketability of the dolls and Quadstrad Ltd put the production of the dolls on hold. In the draft 1996 financial statements the Jaxon Man dolls were recorded as inventory at their cost to Quadstrad Ltd. As at 30 June 1996 the financial controller was concerned with the adverse publicity surrounding the "scandal" and believed that an unfavourable outcome in the probable court case could see the Jaxon Man dolls not ever being sold. The financial controller has no other information concerning the likelihood of a court case or its outcome and predictions for future economic, industrial and legislative conditions in Australia are the same as those predictions that you are currently applying in your working environment.

REQUIRED

Assume you are the auditor for Quadstrad Ltd and you are assessing whether the amounts recorded for inventory in the draft 30 June 1996 balance sheet should be written off or remain recognised as an asset.

1. Given the facts of the above case how confident are you that the company will recover the amounts recorded as inventory?

   Please express your answer in terms of a numerical probability between 0 - 100% (inclusive). _____%

2. What is the minimum level of numerical probability (between 0 - 100% inclusive) that you believe to be equal to the word 'probable'?

   'Probable' means at least - _____%

3. Would you continue to recognise the inventory as an asset in the body of the balance sheet in the 1996 financial statements?

   Circle your response: YES / NO

CASE 2

Palcec Ltd is a publicly listed company incorporated in 1930. Its major operations are located in the mining industry. In the 1992 financial year Palcec commenced exploration and evaluation of an area of interest (which it owned) looking for deposits of a new mineral called 'M3'. At 30 June 1992 the area had been assessed as having large deposits of M3 and development of the area commenced. As at the current financial year ended 30 June 1996 Palcec Ltd had accumulated a material level of M3 as inventory. The inventory was recorded as an asset and valued at the lower of cost and net realisable value in the draft 1996 financial statements. In April 1996 Palcec Ltd heard of an ongoing court case in the United States at which a respected expert on M3 had indicated that M3's qualities may be grossly overestimated. If the expert is correct the mineral will be virtually unsaleable. Another authority on M3 has reported findings which contradict the testimony of the expert in the US court case. As at 30 June 1996 the financial controller has no other information concerning M3 and predictions for future economic, industrial and legislative conditions in Australia are the same as those predictions that you are currently applying in your working environment

REQUIRED

Assume you are the auditor for Palcec Ltd and you are assessing whether the amounts recorded for inventory in the draft 30 June 1996 balance sheet should be written off or remain recognised as an asset.

1. Given the facts of the above case how confident are you that the company will recover the amounts recorded as inventory?

   Please express your answer in terms of a numerical probability between 0 - 100% (inclusive). _____%

2. What is the minimum level of numerical probability (between 0 - 100% inclusive) that you believe to be equal to the word 'probable'?

   'Probable' means at least - _____%

3. Would you continue to recognise the inventory as an asset in the body of the balance sheet in the 1996 financial statements?

   Circle your response: YES / NO

PART C

In this part of the questionnaire we are interested in your opinions on a particular probability expression which is used in an Australian accounting standard. Though you may feel it is difficult to generalise, we would like you to express your opinions as accurately as you can. As with your responses in Part A and B **there are no right or wrong answers**.

We want you to describe your opinions about a particular probability expression using certain scales (known as "adjectival pairings" e.g. CONTROLLABLE : UNCONTROLLABLE or GOOD : BAD). The following instructions are to be used in completing the questionnaire:

1. Please indicate your response to each scale by placing a cross (X) in the space that best describes your response.

   For example, if you feel that the probability expression is a concept that tends to be something which is controllable indicate this as below:

   CONTROLLABLE : X : _ : _ : _ : _ : _ : UNCONTROLLABLE

   If on the other hand you feel that the probability expression is a concept that tends to be uncontrollable, indicate this as below:

   CONTROLLABLE : _ : _ : _ : _ : _ : X : UNCONTROLLABLE

   If think the scale (adjectival pairing) is irrelevant to describing the probability expression then place a cross (X) on the mid-point of the scale as indicated below:

   CONTROLLABLE : _ : _ : _ : X : _ : _ : _ : UNCONTROLLABLE

2. If the probability expression has no meaning to you (i.e. you have no idea what the expression means) then **do not** place a cross on **any** of the scales. Instead place a cross (X) in the box labelled "NO MEANING".

Turn the page to complete this part of the questionnaire.

Paragraphs (i) and (ii) of the Commentary of AASB 1019: Measurement and Presentation of Inventories in the Context of the Historical Cost System state the following:

The general basis of inventory measurement

(i) Inventories are acquired in the expectation of deriving revenue, directly or indirectly, from their sale or use in producing finished goods. In order to determine the profit or loss of a company for a financial period by an appropriate matching of revenues and expenses, it is necessary to carry forward the costs related to the acquisition of inventories until the inventories are sold or used up. Thus, in historical cost accounting, the principal basis for stating inventories held at balance date is cost.

(ii) However, if it is not ***probable*** (emphasis added) *that there will be sufficient revenue to cover the cost incurred as a result, for example, of deterioration, obsolescence or a change in demand, it is necessary that any irrecoverable cost be brought to account as an expense in the current financial period. Thus, inventories normally are stated at net realisable value if this is lower than cost.*

With respect to recognising inventory on the balance sheet, the expression "probable" tends to be:

COMPLETE	: _ : _ : _ : _ : _ : _ :	INCOMPLETE
DISCRETIONARY	: _ : _ : _ : _ : _ : _ :	REQUIRED
REAL	: _ : _ : _ : _ : _ : _ :	IMAGINARY
BENEFICIAL	: _ : _ : _ : _ : _ : _ :	ADVERSE
TEMPORARY	: _ : _ : _ : _ : _ : _ :	PERMANENT
CONTROLLABLE	: _ : _ : _ : _ : _ : _ :	UNCONTROLLABLE
UNEXPECTED	: _ : _ : _ : _ : _ : _ :	EXPECTED
PASSIVE	: _ : _ : _ : _ : _ : _ :	ACTIVE
STATIC	: _ : _ : _ : _ : _ : _ :	DYNAMIC
LONG TERM	: _ : _ : _ : _ : _ : _ :	SHORT TERM
INFLEXIBLE	: _ : _ : _ : _ : _ : _ :	FLEXIBLE
EXACT	: _ : _ : _ : _ : _ : _ :	ESTIMATED
BAD	: _ : _ : _ : _ : _ : _ :	GOOD
MEASURABLE	: _ : _ : _ : _ : _ : _ :	UNMEASURABLE
NECESSARY	: _ : _ : _ : _ : _ : _ :	UNNECESSARY
PLANNED	: _ : _ : _ : _ : _ : _ :	UNPLANNED
OBJECTIVE	: _ : _ : _ : _ : _ : _ :	SUBJECTIVE
TANGIBLE	: _ : _ : _ : _ : _ : _ :	INTANGIBLE
STRONG	: _ : _ : _ : _ : _ : _ :	WEAK
INDIRECT	: _ : _ : _ : _ : _ : _ :	DIRECT
VARIABLE	: _ : _ : _ : _ : _ : _ :	CONSTANT
SAFE	: _ : _ : _ : _ : _ : _ :	RISK

☐ The concept has NO MEANING for me

PART D

1. Did you understand the question that was asked in Part A of this questionnaire?

   Circle the correct response: YES / NO

2. If your answer to question 1 was "NO" please explain below. If your answer was "YES" to question 1 proceed to question 3.

   _____

   _____

   _____

   _____

   _____

3. Did you understand all the questions asked in Part B of this questionnaire?

   Circle the correct response: YES / NO

4. If your answer to question 3 was "NO" please explain below. If your answer was "YES" to question 3 proceed to question 5.

   _____

   _____

   _____

   _____

   _____

5. In Part B of this questionnaire you were asked to make judgements in the context of two real though simplified cases. Due to the nature of this research the cases had to be brief and simplified. For example, information about your own time and budget constraints, cashflow forecasts and client budgets, first hand knowledge of the company and other issues that you would normally face in your daily working environment could not be provided. The following question is not asking about these matters or about the quality of the information you were provided with. The following question is asking for your opinion about the three decisions that you were asked to make in each of the cases. When answering the question place a cross (X) in the space which best reflects your answer.

Would you agree or disagree with the following statement:

Although the information in the cases was brief and simplified, the actual decisions that you were asked to make in Part B are similar to the decisions that you make in your working environment.

AGREE **I : : : : : : I** DISAGREE

6. Did you understand the question asked in Part C of this questionnaire?

Circle the correct response: YES / NO

7. If your answer to question 6 was "NO" please explain below. If your answer was "YES" to question 6 proceed to question 8.

_____

_____

_____

_____

_____

8. What is the minimum numerical level of probability (with respect to the realisation of future economic benefits) that you think should be reached before you would recognise an asset on the balance sheet?

The asset recognition probability should be at least: _____%

9. What is the minimum numerical level of probability (with respect to incurring future economic losses) that you think should be reached before you would recognise a liability on the balance sheet?

The liability recognition probability should be at least: _____%

10. Would your answer to questions 8 and/or 9 change depending upon the facts of the case?

Circle the correct response: YES / NO

Briefly explain:

_____

_____

_____

_____

_____

11. How many years have you worked as an auditor?: _____yrs.

12. Is there anything that you wish to comment on in regard to this questionnaire?:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Many thanks - your participation is greatly appreciated.

APPENDIX

AASB 1019: Measurement and Presentation of Inventories In the Context of the Historical Cost System

Introductory Comments by the Technical Editors

The following introductory note has been prepared by the Technical Editors and does NOT form part of the approved accounting standard.

Approved accounting standard ASRB 1019: Measurement and Presentation of Inventories In the Context of Historical Cost was approved on 30 October 1989 and is effective for financial years ending on or after 31 December 1989. Unlike earlier ASRB standards this standard has been approved on an interim basis only and will be subject to a further detailed review by the ASRB. The standard was approved following the issue of ASRB Release 416: Consideration by the Accounting Standards Review Board of Accounting Standards AAS 1, 2, 3, 4 and 7 for Interim Approval and Certain Proposed Amendments to such Standards in January 1989. The corresponding AAS standard, AAS 2, was reissued in November 1989 incorporating the changes in ASRB 1019. The exclusion of marketable securities from both ASRB 1019 and AAS 2 undermines whatever authority the guidance in AAG 9 "Accounting for Marketable Securities in the Context of Statements of Accounting Standards AAS 2 and AAS 10" [issued April 1988] has in relation to ASRB 1019. It should be noted that AAG 9 has not been given express approval by the ASRB.

Although the power of the ASRB to issue standards under section 266B of the *Companies Code* is limited to companies, other entities may be required by other laws to comply with standards approved by the ASRB under the *Companies Code*. The obligation of members of the Australian Society of Certified Practising Accountants and the Institute of Chartered Accountants in Australia to comply with AAS standards, when there is a corresponding ASRB standard, is explained in the 1990 reissue APS 1 "Conformity with Statements of Accounting Concepts and Accounting Standards", as being limited to reporting entities *other than* those "required by legislation, ministerial directive or other government authority to comply with applicable Approved Accounting Standards" [paragraphs 6 and 9]. This policy change was announced on 30 May 1989 and was immediately effective.

In July 1991, the Australian Accounting Standards Board issued Accounting Standard AASB 1025: Application of the Reporting Entity Concept and Other Amendments. Notice of the approval of this Standard was published in the Commonwealth of Australia Gazette on 23 August 1991. The Standard applies to financial years ending on or after 30 June 1992. Subsection 285(3) of the Corporations Law allows directors of a company to elect in writing that a Standard made under section 32 of the Corporations Act 1989 which has not yet come into operation (i.e., does not apply to the particular financial year, apart from sub-section (4)) shall apply to the financial year.

The principal objective of AASB 1025 is to put into place in all ASRB Standards the AASB's policies concerning the reporting entity concept, the application of materiality, interpretation provisions and transitional provisions. In respect of ASRB 1018, amendments are made to Citation (1018.00), Application (1018.02), Interpretation (1018.04), Materiality (1018.05), and Definitions (1018.06) clauses.

In September 1993, AARF Issued Discussion Paper No. 18 "A Review of the Australian Accounting Standards on Inventories".

In July 1994, ED 61 Application of Accounting Standards to Disclosing Entities other than Companies was issued with comments being sought by 30 September 1994. ED 61 proposes that Accounting Standards issued by the AASB be applied to the financial year accounts and consolidated accounts of disclosing entities that are not companies.

For the half-year ending on or after 31 December 1994, each disclosing entity is required to prepare half-year accounts or consolidated accounts under the enhanced disclosure provisions of the Corporate Law Reform Act 1994. Under AASB 1029: Half-Year Accounts and Consolidated Accounts, the amounts and other disclosures included in the half-year accounts or consolidated accounts, whether required by AASB 1029 or made voluntarily, are to be determined in accordance with AASB Accounting Standards.

End of Introductory Comments by the Technical Editors

Citation

.00 This standard, with the exception of the words shown in italics, may be cited as Approved Accounting Standard ASRB 1019: Measurement and

Endorsed explanatory material

.01 The words shown in italics do not form part of the standard. They are published with the standard as an aid to its interpretation.

Explanatory material is set out in two ways:
(a) immediately after certain of the requirements; and
(b) as a commentary at the end of the standard.

Application

.02 This standard:
(a) applies to each company in relation to its first financial period that ends on or after 31 December 1989, and in relation to subsequent financial periods of the company; and
(b) does not apply to inventories that are:
(i) forests, livestock, or similar regenerative natural resources;
(ii) work in progress under long-term engineering, real estate development or construction projects; or
(iii) marketable securities.

Notice of the approval of this standard was published in the Commonwealth of Australia Gazette on 30 October 1989.

In all cases, compliance with a requirement of a standard is subject to any relevant provision of the Code.

Statement of purpose

.03 The purpose of this standard is:
(a) to specify the method of measuring inventories and the manner in which costs are to be assigned to inventories in the context of the historical cost accounting system; and
(b) to require disclosure of information relating to inventories in the accounts and group accounts of a company;
so that users entitled to rely on the accounts or group accounts are provided with information on inventories which is necessary for an understanding of the financial position, performance, and financing and investing of the company or group of companies.

Interpretation

.04 Where there is a conflict between the interpretation of a provision of this standard and the statement of purpose, the statement of purpose shall prevail.

Application of materiality: Inventories

.05 Information about inventories is material if its omission, non-disclosure or mis-statement is likely to affect economic decisions or other evaluations made by users entitled to rely on the accounts or group accounts

Definitions

.06 In this standard unless the contrary intention appears:

"**absorption costing**" means the method whereby the cost of inventories is determined so as to include the appropriate share of both variable and fixed costs, the latter being allocated on the basis of normal operating capacity;

"**balance date**" means the end of the financial period to which the accounts or group accounts relate;

"**brought to account**" means recognised in the accounts or group accounts, otherwise than by way of note;

"Code" means, where this standard applies in –
(a) the Australian Capital Territory – the Companies Act 1981, and the regulations made under that Act; or
(b) a State or the Northern Territory – the Companies Code of a State or the Northern Territory, as defined in the Companies (Application of Laws) Act of that State or the Northern Territory and the regulations applying under that Code;

"**cost of conversion**" means:
(a) the cost of direct labour (including any charges directly incurred in connection with the employment of such labour) and of sub- contracted work; and
(b) other production costs ascertained in accordance with the absorption costing method and excludes costs which relate to general administration, finance, marketing, selling and distribution to customers;

"**cost of inventories**" means the aggregate of:
(a) the cost of purchase;
(b) the cost of conversion; and
(c) other costs;

incurred in the normal course of operations in bringing the inventories to their present location and condition;

"**cost of purchase**" means the purchase price plus duties and taxes, inwards transport costs and any other directly attributable costs of acquisition, less discounts (other than settlement discounts), rebates and subsidies whether immediate or deferred;

"**current assets**" means, in relation to –
(a) a corporation – cash or other assets of the corporation that would in the ordinary course of business of that corporation be consumed or converted into cash within 12 months after the end of the last financial period of that corporation; or
(b) a group of companies – cash or other assets of each corporation in the group that would in the ordinary course of business of that corporation

(a) accounts of a corporation referred to in paragraph 158(5)(b) of the Code or, where that corporation is a holding company, the group accounts prepared in accordance with that paragraph – the period of six months after the end of the financial year of that corporation;
(b) a set of consolidated accounts of a borrowing corporation and each guarantor corporation referred to in paragraph 158(6)(b) of the Code – the period of six months after the end of the financial year of the borrowing corporation; or
(c) the accounts or group accounts of any other corporation the financial year of the corporation;

"**fixed costs**" means those costs of production which remain relatively constant from financial period to financial period irrespective of variations, within normal operating limits, in the volume of production;

"**inventories**" means goods, other property and services:
(a) held for sale in the ordinary course of business;
(b) in the process of production for such sale; or
(c) to be used up in the production of goods, other property or services for sale including consumable stores and supplies, but does not include depreciable assets as defined in Approved Accounting Standard ASRB 1021: Depreciation of Non-Current Assets;

"**net realisable value**" means the estimated proceeds of sale less, where applicable, all further costs to the stage of completion and less all costs to be incurred in marketing, selling and distribution to customers;

"**non-current assets**" means all assets other than current assets;

"**replacement cost**" means the cost at which an identical inventory item could be purchased or manufactured at balance date, having regard to normal purchasing or production quantities and conditions; and

"**variable costs**" means those costs of production which vary directly, or nearly directly, with the volume of production.

Relevant provisions of the Code include:

Sub-section 266E(1): "Unless the contrary intention appears in the accounting standard, an expression used in an approved accounting standard has the same meaning as the expression has in this Part [Part VI]".

Sub-section 5(1): definition of "financial year" and "marketable securities".

Sub-section 266(1): definition of "accounts" and "group accounts".

Inventory measurement

.10 Subject to clauses .11 and .50, inventories shall be measured at the lower of cost and net realisable value on an item by item basis.

For endorsed comment see:

Paragraphs (i) and (ii): The general basis of inventory measurement

Paragraphs (ix) to (xiv): Net realisable value

Determining cost and net realisable value

.20 Costs arising from exceptional wastage (material, direct labour or production expenses) shall be excluded when determining cost of inventories.

.21 Cost of inventories shall be based on standard costs only where standards are set so as to be realistically attainable and are reviewed regularly and, where necessary, revised in the light of current conditions. The cost of inventories so derived shall be adjusted for cost variances caused by significant changes in material prices, labour rates, manufacturing expenses or operating conditions to the extent that such variances directly relate to inventories on hand.

.22 Replacement cost shall be used only where it represents a fair approximation of net realisable value.

.23 When assessing the lower of cost and net realisable value, the net realisable value of inventory quantities held for delivery against firm sales contracts shall be based on the contract price.

.24 The retail inventory method shall be used to determine the cost of inventories only when it results in an amount reasonably approximating the lower of cost and net realisable value.

For endorsed comment see:

Paragraphs (iii) to (viii): Determining cost in relation to inventories

Paragraphs (ix) to (xiv): Net realisable value

Assigning costs to Inventories

.30 Cost of inventories shall be assigned to particular items of inventory by one or more of the following methods:
(a) specific identification;
(b) average cost (weighted);
(c) first in first out (FIFO); and
(d) standard cost.

.31 The method adopted shall be appropriate to the circumstances and applied consistently from financial period to financial period.

Materials, consumable stores and supplies

.40 Normal quantities of materials, consumable stores and supplies held fo use in the production of finished goods for sale shall not be measured a less than cost where the net realisable value of those finished goods i expected to equal or exceed the cost of those finished goods.

For endorsed comment see:

Paragraphs (x) and (xi): Net realisable value

By-products

.50 When the costs of by-products are not separable from the costs of th principal products, inventories of such by-products shall be stated at ne realisable value. The net realisable value of the by-products shall b deducted from the total cost of inventories in order to arrive at the cost o the principal products.

Disclosures in the accounts and group accounts

.60 Where the information is material, the accounts and group accounts shal disclose:
(a) inventories by class in the balance sheet in a manner appropriate t the business, stating the amount for each such class, including, as minimum, the following classes as between current assets and non current assets:
(i) raw materials and stores;
(ii) work in progress;
(iii) finished goods; and
(iv) land held for resale; and
(b) the general basis or bases adopted in inventory measurement, and th method(s) used to assign costs to the inventory quantities held at balanc date.

Transitional provision

.70 Where the accounting treatments required by this standard are no already being applied at the date this standard is first applied they shal be applied retrospectively. Where this gives rise to adjustments to th carrying amounts of inventories any corresponding net adjustment shall, in accordance with clause .11 of Approved Accounting Standard ASRB 1018: Profit and Loss Accounts, be adjusted against retained profits or accumulated losses at the beginning of the financial period in which this standard is first applied.

COMMENTARY

The general basis of inventory measurement

(i) *Inventories are acquired in the expectation of deriving revenue directly or*

Thus, in historical cost accounting, the principal basis for stating inventories held at balance date is cost.

(ii) However, if it is not probable that there will be sufficient future revenue to cover the cost incurred as a result, for example, of deterioration, obsolescence or a change in demand, it is necessary that any irrecoverable cost be brought to account as an expense in the current financial period. Thus, inventories normally are stated at net realisable value if this is lower than cost.

Determining cost in relation to inventories

(iii) Production costs can be segregated into variable costs and fixed costs. This distinction is of particular importance in relation to depreciation. Where depreciation charges (in recognition of obsolescence as the prime factor) are made on a time basis, variations in the volume of production will not affect the amounts charged and therefore depreciation, in such cases, is considered to be a fixed cost. However, where depreciation charges (in recognition of wear and tear as the prime factor) are computed on an output basis, they will vary in direct relationship with the volume of production and in such circumstances depreciation is more correctly treated as a variable cost.

(iv) The two main methods for dealing with fixed costs are direct costing and absorption costing. Absorption costing better reflects the cost of obtaining the service potential of inventories and is required by this standard.

(v) Under absorption costing, fixed costs are included in the cost of inventories because they are considered to be as much a part of the cost of conversion as are direct labour and other variable costs. Under direct costing, fixed production costs are treated as period costs (that is, they are brought to account as expenses in the financial period in which they are incurred) and thus excluded from the cost of inventories. The supporters of absorption costing argue that it is the only method that gives proper recognition to the total cost of inventories, whereas use of direct costing may significantly understate the cost of inventories.

(vi) It is necessary for fixed costs included in the cost of inventories to be based on the company's normal operating capacity with any variance due to excess capacity being brought to account as an expense in the current financial period. In determining what constitutes normal capacity, the following factors need to be considered:

- *(a) the volume of production which the production facilities are intended by their designers and by management to yield under the working conditions (for example, single or double shift) normally prevailing;*
- *(b) the budgeted level of activity for the current financial period and for the ensuing financial period; and*
- *(c) the level of activity achieved both in the current financial period and in previous financial periods.*

Although temporary changes in the level of activity may be ignored, persistent variation could require a revision of the previous norm.

determining the cost of inventories is considered acceptable only if standards are set so as to be realistically attainable and are reviewed regularly and, where necessary, revised in the light of current conditions. The manner in which balances in cost variance accounts are dealt with, in relation to inventories on hand at balance date, will depend upon the nature of the variances and also the circumstances which caused them. If standards have been properly set and maintained, they are a sound basis for determining cost for the purpose of inventory measurement and all variances from standard can be brought to account as expenses or revenues in the financial period in which they arise. However, should significant changes have occurred in any of the factors on which the standards are based without the standard cost being amended accordingly, inventory measurement on the basis of those standard costs will require an apportionment between cost of goods sold and inventories of the resultant variances.

(viii) The ascertainment of cost of inventories in merchandising businesses can be difficult where the inventory comprises a large number of items with a high rate of turnover and the cost of individual items is often not readily obtainable. Under these circumstances a method widely followed, and known as "the retail inventory method", produces a measure of inventory which normally approximates the lower of cost and net realisable value. This method involves the discounting of the selling value (that is, value at current selling prices after mark-downs, if any) of the total inventory in a merchandise department, or classification, by the current average mark-up in that department, or classification, expressed as a percentage of the selling price. Where an inventory contains seasonal and slow moving items which are not expected to be sold at their original selling price and their price has therefore been marked down, the application of the retail inventory method could result in the particular items being measured at less than cost; when those items are ultimately sold, the normal gross profit percentage would in these circumstances be achieved. The use of actual gross profit percentages (which reflect the incidence of mark-downs as well as losses through theft and damage), in place of the current financial period's average mark-up, cannot be supported, as it could result in the cost of inventories being overstated.

Net realisable value

(ix) The initial calculation to reduce inventories from cost to net realisable value may often be made by using formulae based on predetermined criteria. The formulae normally take into account, as appropriate, the age, past movements, expected future movements and estimated scrap values of the inventories. Whilst the use of such formulae establishes a basis which can be consistently applied, it is still necessary for the result to be reviewed in the light of any special circumstances not anticipated in the formulae, such as changes in current demand.

(x) In respect of spares held for sale or use in after-sales service, past and future inventory movements need to be related to the total number of units in existence on which the spares can be used and also to the approximate date by which the last of those units can be expected to have gone out of service.

which they are to be incorporated can be expected to equal or exceed the cost of that product. Where it is necessary to reduce the amount to be assigned to inventories of finished products from cost to net realisable value, inventories of materials, components and sub-assemblies held for the purpose of manufacturing such products need to be reviewed at the same time, having particular regard to any outstanding purchase orders, in order to determine if those items should also be reduced accordingly.

(xii) *The principal situations in which net realisable value is likely to be less than cost of inventories are those where there has been:*

(a) *a fall in selling price;*
(b) *physical deterioration of inventories;*
(c) *obsolescence of products;*
(d) *a decision, as part of a company's marketing strategy to manufacture and sell products for the time being at a loss; or*
(e) *miscalculations or other errors in purchasing or production.*

Furthermore, when inventories held are in excess of the quantities expected to be sold within the turnover period normal in the particular industry, there is an increased possibility that the risks outlined in (a) to (c) above may be encountered. Such risks therefore need to be taken into account in assessing net realisable value.

(xiii) *The comparison of cost and net realisable value needs to be made separately in respect of each item of inventory. Where this is impracticable, groups or categories of similar inventory items may have to be taken together. Comparison of the aggregate of the net realisable values of all the inventory items with the aggregate of the costs of all those items is not acceptable because it could result in bringing to account, wholly or in part, unrealised inventory gains.*

(xiv) *Items of inventory are sometimes stated in accounts and group accounts at their estimated replacement cost where this is lower than cost. There is no objection to this practice provided that replacement cost represents a fair approximation of net realisable value. Where replacement cost is less than net realisable value, its use is not regarded as acceptable in accounts and group accounts based on the historical cost system, because, in the context of this system, it could have the effect of distorting results as between successive financial periods.*

Inventory movements and cost flow

(xv) *A question separate from and additional to the determination of cost, is the assignment of costs to the inventory quantities held at balance date. Of the various methods which are used, each of the following, when employed in the appropriate circumstances, can be considered to achieve the objective of assigning costs with proper regard for the relationship between inventory movements and historical cost flows:*

(a) *specific identification – this method assigns specific costs to identified units of inventory;*
(b) *average cost – this method assigns weighted average costs, arrived at by means of a continuous calculation, a periodic calculation or a*

(d) *standard cost – this method assigns predetermined costs, subject to adjustment for cost variances where appropriate.*

(xvi) *In selecting one or more of the methods referred to above, management must exercise judgement to ensure that the method chosen provides the fairest practicable accounting reflection of the reality of the situation. It may, for example, be inappropriate to apply averages based on costs incurred over a whole financial period, in circumstances where there was a complete turnover of inventories several times during that financial period.*

PROBABILITY EXPESSION RESEARCH INSTRUMENT

GROUP 3

GENERAL INSTRUCTIONS

The following research instrument is gathering information from experienced auditors about an expression currently used in an Australian accounting standard. The accounting standard has been placed in the appendix should you need to refer to it. The research is concerned with judgements that you make in your working environment and we would like you to provide answers that reflect your judgements in the "real world" environment.

Part A contains one question on the numerical level of probability that you associate with a particular probability expression.

Part B contains four real (though simplified) cases, and for each case, you are asked to make three judgements. Even if you feel that there is not enough information please endeavour to work with the information available to you.

Part C contains one question dealing with your beliefs about the meaning of a particular probability expression.

Finally, Part D contains some general questions and some questions concerning biographical details.

You should complete the questionnaire without consulting your peers but please speak with the person coordinating this research if you have <u>any</u> queries. Once you have answered a question move on to the next question and do not go back and change any previous answers.

We appreciate your participation in this research and stress that there are **no "trick" questions** and **no right or wrong answers** to the questions being asked.

PART A

AASB 1020 clause .13 states that where a company incurs or is carrying forward a tax loss then future income tax benefits attributable to both the tax losses and any timing differences should not be recognised in the balance sheet unless it is virtually certain that these benefits will be realised.

What is the minimum level of numerical probability (between 0 -100% inclusive) that you believe to be equal to the phrase "virtually certain"?

"Virtually certain" means at least – _____%

CASE 2

Vaughan Ltd is a publicly listed company which specialises in the manufacture of steel castings and related products in Australia. In the last three years Vaughan Ltd's after tax profits have been small by industry standards and the company will report an operating loss and a tax loss in the current financial year ended 30 June 19X4. The directors have described these results as due to the economic climate (which was in a severe recession), the costs incurred in shifting premises and aggressive competition. In addition the company faced industrial problems most of which have now been resolved. The directors hope that the remaining problems will be resolved with the aid of recently appointed industrial relations personnel. During the current financial year Vaughan Ltd completed a contract which provided 15% of its total revenue for the year. If this contract cannot be replaced with a similar contract(s) in the next financial year Vaughan Ltd will record a tax loss. The company's total asset/total liability ratio is approximately 1.5 : 1. The company's share price has facilitated no capital gains in the past year and it did not pay a dividend in the current financial year. The company has no provision for deferred income tax and predictions for future economic, industrial and legislative conditions in Australia are the same as those that you are currently applying in your working environment.

REQUIRED

Assume you are the auditor for Vaughan Ltd in the current financial year ended 30 June 19X4 and you are assessing the situation with respect to carrying forward the future income tax benefits attributable to the tax loss and timing differences.

1. Given the facts of the case, how confident are you that the company will realise the future income tax benefits if they are carried forward?

   Please express your answer in terms of a numerical probability between 0 – 100% (inclusive) _____%

2. What is the minimum level of numerical probability (between 0 - 100% inclusive) that you believe to be equal to the phrase "virtually certain"?

   "Virtually certain" means at least - _____%

3. Would you recognise the future income tax benefits as an asset on the balance sheet for the year ended 30 June 19X4?

   Circle your response: YES / NO

CASE 3

Palcec Ltd is a publicly listed company. It is recognised as being one of the market leaders in the manufacture of cement and related products in Australia. Palcec Ltd has, in the last ten years, generated profits with an average annual growth rate of 14%. However, in the last three years, Palcec Ltd's profits have averaged a growth rate of 3%. The directors of the company have described the downturn in the last three year's results as due to the economic climate (which was in a severe recession) and encouragement by state governments to see vacant properties given alterative uses (e.g. inner city apartments). The company's management changed significantly four years ago but has not changed since. In the current financial year (30 June X4) industrial problems contributed to the company's profits being slightly less than the previous year and also contributed to the company incurring a tax loss for the year. These industrial problems have all been resolved. The company's assets, if disposed of today, would easily cover the claims of both creditors and shareholders. The company has no provision for deferred income tax and predictions for future economic, industrial and legislative conditions in Australia are the same as those that you are currently applying in your working environment.

REQUIRED

Assume you are the auditor for Palcec Ltd in the current financial year ended 30 June 19X4 and you are assessing the situation with respect to carrying forward the future income tax benefits attributable to the tax loss and timing differences.

1. Given the facts of the case, how confident are you that the company will realise the future income tax benefits if they are carried forward?

   Please express your answer in terms of a numerical probability between 0 – 100% (inclusive) _____%

2. What is the minimum level of numerical probability (between 0 - 100% inclusive) that you believe to be equal to the phrase "virtually certain"?

   "Virtually certain" means at least - _____%

3. Would you recognise the future income tax benefits as an asset on the balance sheet for the year ended 30 June 19X4?

   Circle your response: YES / NO

CASE 4

Quadstrad Ltd was incorporated in 1956. In July 1992 it became a publicly listed company on the Australian Stock Exchange. Its principal activities are thoroughbred horse breeding, real estate development and it has significant interests in the retail motor vehicle industry. The management of the company has not changed significantly in the past ten years and there is no reason to expect any change in the future. The company has consistently derived sound profits (despite a severe recession) over the past four years, its total asset/total liability ratio is far better than the industry average and the share price has reflected great confidence in the company's ability to derive future profits. In the current financial year ending 30 June 1994 the company's profits were again sound and above the industry average. However, due to very large and special tax deductions made available in the current year, the company incurred a tax loss. The company has no provision for deferred income tax and the predictions for future economic, industrial and legislative conditions in Australia are the same as those that you are currently applying in your working environment.

REQUIRED

Assume you are the auditor for Quadstrad Ltd in the current financial year ended 30 June 1994 and you are assessing the situation with respect to carrying forward future income tax benefits attributable to the tax loss and timing differences.

1. Given the facts of the case, how confident are you that the company will realise the future income tax benefits if they are carried forward?

   Please express your answer in terms of a numerical probability between 0 – 100% (inclusive) _____%

2. What is the minimum level of numerical probability (between 0 - 100% inclusive) that you believe to be equal to the phrase "virtually certain"?

   "Virtually certain" means at least - _____%

3. Would you recognise the future income tax benefits as an asset on the balance sheet for the year ended 30 June 1994?

   Circle your response: YES / NO

PART C

In this part of the questionnaire we are interested in your opinions on a particular probability expression which is used in an Australian accounting standard. Though you may feel it is difficult to generalise, we would like you to express your opinions as accurately as you can. As with your responses in Part A and B **there are no right or wrong answers.**

We want you to describe your opinions about a particular probability expression using certain scales (known as "adjectival pairings" e.g. CONTROLLABLE : UNCONTROLLABLE or GOOD : BAD). The following instructions are to be used in completing the questionnaire:

1. Please indicate your response to each scale by placing a cross (X) in the space that best describes your response.

   For example, if you feel that the probability expression is a concept that tends to be something which is controllable indicate this as below:

   CONTROLLABLE : X : _ : _ : _ : _ : _ : UNCONTROLLABLE

   If on the other hand you feel that the probability expression is a concept that tends to be uncontrollable, indicate this as below:

   CONTROLLABLE : _ : _ : _ : _ : _ : X : UNCONTROLLABLE

   If you think the scale (adjectival pairing) is irrelevant to describing the probability expression then place a cross (X) on the mid-point of the scale as indicated below:

   CONTROLLABLE : _ : _ : _ : X : _ : _ : _ : UNCONTROLLABLE

2. If the probability expression has no meaning to you (i.e. you have no idea what the phrase means) then **do not** place a cross on **any** of the scales. Instead place a cross (X) in the box labelled "NO MEANING".

Turn the page to complete this part of the questionnaire.

"AASB 1020 Accounting For Income Tax (Tax-Effect Accounting)" clause .13 indicates that where a company incurs a tax loss or is carrying forward a tax loss in a current financial year then it must be "virtually certain" that future income tax benefits, attributable to those tax losses and any timing differences, will be realised before they can be recognised as an asset on the body of the balance sheet. With respect to recognising future income tax benefits on the balance sheet the expression "virtually certain" tends to be:

COMPLETE	:_:_:_:_:_:_:	INCOMPLETE
DISCRETIONARY	:_:_:_:_:_:_:	REQUIRED
REAL	:_:_:_:_:_:_:	IMAGINARY
BENEFICIAL	:_:_:_:_:_:_:	ADVERSE
TEMPORARY	:_:_:_:_:_:_:	PERMANENT
CONTROLLABLE	:_:_:_:_:_:_:	UNCONTROLLABLE
UNEXPECTED	:_:_:_:_:_:_:	EXPECTED
PASSIVE	:_:_:_:_:_:_:	ACTIVE
STATIC	:_:_:_:_:_:_:	DYNAMIC
LONG TERM	:_:_:_:_:_:_:	SHORT TERM
INFLEXIBLE	:_:_:_:_:_:_:	FLEXIBLE
EXACT	:_:_:_:_:_:_:	ESTIMATED
BAD	:_:_:_:_:_:_:	GOOD
MEASURABLE	:_:_:_:_:_:_:	UNMEASURABLE
NECESSARY	:_:_:_:_:_:_:	UNNECESSARY
PLANNED	:_:_:_:_:_:_:	UNPLANNED
OBJECTIVE	:_:_:_:_:_:_:	SUBJECTIVE
TANGIBLE	:_:_:_:_:_:_:	INTANGIBLE
STRONG	:_:_:_:_:_:_:	WEAK
INDIRECT	:_:_:_:_:_:_:	DIRECT
VARIABLE	:_:_:_:_:_:_:	CONSTANT
SAFE	:_:_:_:_:_:_:	RISK

☐ The concept has NO MEANING for me

PART D

1. Did you understand the question that was asked in Part A of this questionnaire?

   Circle the correct response: YES / NO

2. If your answer to question 1 was "NO" please explain below. If your answer was "YES" to question 1 proceed to question 3.

   _____

   _____

   _____

   _____

   _____

3. Did you understand all the questions asked in Part B of this questionnaire?

   Circle the correct response: YES / NO

4. If your answer to question 3 was "NO" please explain below. If your answer was "YES" to question 3 proceed to question 5.

   _____

   _____

   _____

   _____

   _____

5. In Part B of this questionnaire you were asked to make judgements in the context of four real though simplified cases. Due to the nature of this research the cases had to be brief and simplified. For example, information about your own time and budget constraints, cashflow forecasts and client budgets, first hand knowledge of the company and other issues that you would normally face in your daily working environment could not be provided. The following question is not asking about these matters or about the quality of the information you were provided with. The following question is asking for your opinion about the three decisions that you were asked to make in each of the cases. When answering the question place a cross (X) in the space which best reflects your answer.

Would you agree or disagree with the following statement:

Although the information in the cases was brief and simplified, the actual decisions that you were asked to make in Part B are similar to the decisions that you make in your working environment.

AGREE **I : : : : : : I** DISAGREE

6. Did you understand the question asked in Part C of this questionnaire?

Circle the correct response: YES / NO

7. If your answer to question 6 was "NO" please explain below. If your answer was "YES" to question 6 proceed to question 8.

_____

_____

_____

_____

_____

8. What is the minimum numerical level of probability (with respect to the realisation of future economic benefits) that you think should be reached before you would recognise an asset on the balance sheet?

The asset recognition probability should be at least : _____%

9. What is the minimum numerical level of probability (with respect to incurring future economic losses) that you think should be reached before you would recognise a liability on the balance sheet?

The liability recognition probability should be at least : _____%

10. Would your answer to questions 8 and/or 9 change depending upon the facts of the case?

Circle the correct response: YES / NO

Briefly explain:

_____

_____

_____

_____

_____

11. How many years have you worked as an accountant/auditor?: _____yrs.

12. Is there anything that you wish to comment on in regard to this questionnaire?:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Many thanks – your participation is greatly appreciated.

AASB 1020: Accounting for Income Tax (Tax-Effect Accounting)

Introductory Comments by the Technical Editors (I. L-S: Amended CWP 1991)

The following introductory note has been prepared by the Technical Editors and does NOT form part of the approved accounting standard.

Approved accounting standard ASRB 1020: Accounting for Income Tax (Tax-effect Accounting) was approved on 30 October 1989 and is effective for financial years ending on or after 31 December 1989. Unlike earlier ASRB standards this standard has been approved on an interim basis only and will be subject to a further detailed review by the ASRB. The standard was approved following the issue of ASRB Release 416: Consideration by the Accounting Standards Review Board of Accounting Standards AAS 1, 2, 3, 4 and 7 for Interim Approval and Certain Proposed Amendments to such Standards in January 1989. The provisions relating to the treatment of changes in income tax rates foreshadowed in ASRB Release 416 have been implemented. The corresponding AAS standard, AAS 3, was reissued in November 1989 incorporating the changes in ASRB 1020. Guidance on the implementation of the AAS 3 is contained in AAG 2 "Accounting for a Change in the Rate of Company Income Tax" [December 1985], AAG 4 "Accounting for the Intra-group Transfer of Tax Losses" [December 1985], AAG 6 "Accounting for the Fringe Benefits Tax" [July 1987], AAG 7 "Accounting Implications of Dividend Imputation" [August 1987] and AAG 8 "Accounting for the Capital Gains Tax" [September 1987]. The subsequent reissue of AAS 3 has not impaired the authority of the guidance provided in these releases, but it should be noted that neither AAG 4, or AAG 6, nor AAG 8 has been given express approval by the ASRB.

Although the power of the ASRB to issue standards under section 266B of the *Companies Code* is limited to companies, other entities may be required by other laws to comply with standards approved by the ASRB under the *Companies Code*. The obligation of members of the Australian Society of Certified Practising Accountants and the Institute of Chartered Accountants in Australia to comply with AAS standards, when there is a corresponding ASRB standard, is explained in the 1990 reissue APS 1 "Conformity with Statements of Accounting Concepts and Accounting Standards", as being limited to reporting entities *other than* those "required by legislation, ministerial directive or other government authority to comply with applicable Approved Accounting Standards" [paragraphs 6 and 9]. This policy change was announced on 30 May 1989 and was immediately effective.

In July 1991, the Australian Accounting Standards Board issued Accounting Standard AASB 1025: Application of the Reporting Entity Concept and Other Amendments. Notice of the approval of this Standard was published in the Commonwealth of Australia Gazette on 23 August 1991. The Standard applies to financial years ending on or after 30 June 1992. Subsection 285(3) of the Corporations Law allows directors of a company to elect in writing that a Standard made under section 32 of the Corporations Act 1989 which has not yet come into operation (i.e., does not apply to the particular financial year, apart from sub-section (4)) shall apply to the financial year.

The principal objective of AASB 1025 is to put into place in all ASRB Standards the AASB's policies concerning the reporting entity concept, the application of materiality, interpretation provisions and transitional provisions. In respect of ASRB 1020, amendments are made to Citation (1020.00), Application (1020.02), Interpretation (1020.04), Materiality (1020.05), Definitions (1020.06), and Transitional (1020.50) clauses.

End of Introductory Comments by the Technical Editors

Citation

.00 This standard, with the exception of the words shown in italics, may be cited as Approved Accounting Standard ASRB 1020: Accounting for Income Tax (Tax-effect Accounting).

Endorsed explanatory material

.01 The words shown in italics do not form part of the standard. They are published with the standard as an aid to its interpretation.

Explanatory material is set out in two ways:
(a) immediately after certain of the requirements; and
(b) as a commentary at the end of the standard.

Application

.02 This standard applies to each company in relation to its first financial period that ends on or after 31 December 1989, and in relation to subsequent financial periods of the company.

Notice of approval of this standard was published in the Commonwealth of Australia Gazette on 30 October 1989.

In all cases, compliance with a requirement of a standard is subject to any relevant provision of the Code.

Statement of purpose

.03 The purpose of this standard is:
(a) to specify the method for determining income tax expense, provision for income tax, provision for deferred income tax and future income tax benefit; and
(b) to require disclosure in the accounts and group accounts of information in relation to income tax expense, provision for income tax, provision for deferred income tax and future income tax benefit;
so that users entitled to rely on the accounts or group accounts are provided with information on the impact of tax on the income of companies under provisions of the Australian Income Tax Assessment Act 1936 (and of any applicable foreign tax legislation) which is necessary for an understanding of the financial position, performance, and financing and investing of the company or group of companies.

Interpretation

.04 Where there is a conflict between the interpretation of a provision of this standard and the statement of purpose, the statement of purpose shall prevail.

Application of materiality: Accounting for Income Tax

.05 Information about accounting for income tax is material if its omission, non-disclosure or mis-statement is likely to affect economic decisions or other evaluations made by users entitled to rely on the accounts or group accounts.

Definitions

.06 In this standard unless the contrary intention appears:

"brought to account" means recognised in the accounts or group accounts, otherwise than by way of note;

"Code" means, where this standard applies in –
(a) the Australian Capital Territory – the Companies Act 1981, and the regulations made under that Act; or
(b) a State or the Northern Territory – the Companies Code of a State or the Northern Territory, as defined in the Companies (Application of Laws) Act of that State or the Northern Territory and the regulations applying under that Code;

(a) accounts of a corporation referred to in paragraph 158(5)(b) of the Code or, where that corporation is a holding company, the group accounts prepared in accordance with that paragraph – the period of six months after the end of the financial year of that corporation;
(b) a set of consolidated accounts of a borrowing corporation and each guarantor corporation referred to in paragraph 158(6)(b) of the Code – the period of six months after the end of the financial year of the borrowing corporation; or
(c) the accounts or group accounts of any other corporation – the financial year of the corporation;

"future income tax benefit" means the estimated amount of future saving in income tax likely to arise as a result of:
(a) the reversal of timing differences; and
(b) the recoupment of carried forward tax losses (which for the purposes of this standard are dealt with separately from other timing differences);

"income tax expense" means the amount of income tax which would be payable on the pre-tax accounting profit adjusted for permanent differences. The term "income tax benefit" is used to describe this amount where it is a net credit;

"income tax payable" means the amount of income tax calculated on the taxable income of a company for the financial period;

"permanent differences" means differences between taxable income or tax loss and pre-tax accounting profit or loss arising from the existence of:
(a) particular expenses and particular items of revenue, which, under current income tax legislation, will never be included in the determination of taxable income or tax loss although they are brought to account in the profit and loss account; and
(b) particular amounts which are allowable deductions or which are assessable income for income tax purposes although these amounts will never be brought to account in the profit and loss account;

"pre-tax accounting profit or loss" means the aggregate of the operating profit or loss and the extraordinary items for a given financial period before charging the related income tax expense or before crediting the related future income tax benefit;

"provision for deferred income tax" means the non-current liability for the estimated amount of income tax expected to be assessed in the future as a result of the reversal of timing differences;

"provision for income tax" means the current liability for the estimated amount of income tax which is assessable on the taxable income of the company for the current and prior financial periods (to the extent that such tax has not been already paid);

"taxable income" means the excess of assessable income over allowable deductions calculated according to the provisions of the applicable income tax legislation ("tax loss" means the converse); and

"timing differences" means differences between pre-tax accounting profit or loss and taxable income or tax loss for a given financial period which arise because the financial period in which some items of revenue

and expense are included in the determination of the pre-tax accounting profit or loss does not coincide with the financial period in which they are included in the determination of taxable income or tax loss.

Each timing difference originates in one financial period and is reversed, or "turns around", in one or more subsequent financial periods.

Relevant provisions of the Code include:

Sub-section 266E(1): "Unless the contrary intention appears in the accounting standard, an expression used in an approved accounting standard has the same meaning as the expression has in this Part [Part VI]".

Sub-section 5(1): definition of "financial year" and "profit and loss account".

Sub-section 7(1): definition of "subsidiary".

Sub-section 266(1): definition of "accounts", "group accounts" and "group of companies".

Determination of income tax expense, provision for deferred income tax and future income tax benefit

.10 The amount of the income tax expense attributable to the transactions included in the profit and loss account for a financial period shall be brought to account in that profit and loss account irrespective of whether the income tax is currently payable, or has already been paid, or will become payable in the future. The amount of such income tax expense shall be calculated on the pre-tax accounting profit or loss, adjusted for permanent differences (if any), by using the liability method of tax-effect accounting. Where the permanent differences are material, a note to the accounts and group accounts shall state their general nature and the extent to which they have affected the amount of income tax expense.

.11 If in respect of a financial period the income tax payable differs from the income tax expense, the amount of the difference:
(a) shall be brought to account and disclosed as a liability, described as "provision for deferred income tax", to the extent that the difference arises from timing differences caused by the present deductibility for tax purposes of expenses deferred for accounting purposes and/or the present non-assessability for tax purposes of revenue included in the determination of pre-tax accounting profit or loss; and
(b) shall, subject to the provisions of clauses .12 and .13, be brought to account and disclosed as an asset, described as "future income tax benefit", to the extent that the difference arises from timing differences caused by the present non-deductibility for tax purposes of expenses included in the determination of the pre-tax accounting profit or loss and/or the current assessability for tax purposes of revenue items deferred for accounting purposes.

For endorsed comment on clauses .10 and .11 see:

Paragraphs (ii) and (iii): Differences between taxable income or tax loss and pre-tax accounting profit or loss

.12 A future income tax benefit referred to in clause .11 shall only be carried forward as an asset where realisation of the benefit can be regarded as being assured beyond any reasonable doubt. Realisation shall depend upon:
(a) the ability of the company to derive future assessable income of a nature and of sufficient amount to enable the benefit to be realised;
(b) the ability of the company to continue to comply with the conditions for deductibility imposed by law; and
(c) an expectation that legislation will not change in a manner which would adversely affect the company's ability to realise the benefit.

.13 In the case of companies which incur losses, any future income tax benefit shall not be brought to account as an asset unless realisation of the benefit is virtually certain. Where any part of a future income tax benefit carried forward as an asset is attributable to tax losses, that part shall be separately disclosed by way of note in the accounts and group accounts.

.14 Where a provision for deferred income tax exists and a company incurs a tax loss, the future income tax benefit attributable to the tax loss shall be brought to account as a reduction of the provision for deferred income tax to the extent that deferred income tax has already been provided in respect of timing differences which will reverse within the financial periods during which the tax loss will remain available as a deduction from assessable income. The amount representing the reduction in the provision shall be shown in the accounts and group accounts by way of note or otherwise and described as "provision for deferred income tax no longer required". The extent to which the provision for deferred income tax is reduced by future income tax benefits attributable to tax losses shall be separately disclosed by way of note in the accounts and group accounts of each financial period while the losses remain available as a deduction.

.15 To the extent that a future income tax benefit attributable to tax losses has not been recognised as an asset or as a reduction in a provision for deferred income tax and there is a possibility that the tax losses will be recouped in accordance with tax legislation, the future income tax benefit expected to arise from the recoupment shall be shown by way of a note to the accounts and group accounts. The note shall state that the benefit will only be obtained if:
(a) the company derives future assessable income of a nature and of an amount sufficient to enable the benefit from the deductions for the loss to be realised;
(b) the company continues to comply with the conditions for deductibility imposed by tax legislation; and
(c) no changes in tax legislation adversely affect the company in realising the benefit from the deductions for the loss.

.16 In any financial period in which past income tax losses are recouped, the income tax expense for that financial period, determined in accordance with clause .10 above, shall be brought to account in the profit and loss account in the normal way, and –
(a) to the extent that the future income tax benefit attributable to such losses has not been brought to account (or if it had been brought to account and subsequently reversed) – the tax benefit derived from the

(b) if a future income tax benefit had been previously brought to account in relation to tax losses – that future income tax benefit shall be reduced by the amount of the realised tax benefit; or
(c) if a provision for deferred income tax had been previously reduced or eliminated – the excess of the income tax expense (less the amounts, if any, already dealt with under paragraphs (a) and (b) above) over the income tax currently payable shall be added to the provision for deferred income tax so that when the past tax losses are recouped and income tax becomes payable the provision will be sufficient to cover the income tax which becomes payable as the related timing differences reverse.

.17 Where differences arise between the amount of the income tax payable in respect of a financial period and the income tax expense for the same financial period, and some or all of the differences arise because of reversals of timing differences brought to account in prior financial periods, the differences attributable to such reversals shall be adjusted against the balance shown in the future income tax benefit account, or provision for deferred income tax account. At each balance date a transfer shall be made from the provision for deferred income tax to the provision for income tax of any portion of the first-mentioned provision which has become a current liability as a result of the reversal of timing differences.

For endorsed comment on clauses .12 to .17 see:

Paragraphs (viii) to (xii): Future income tax benefits

.18 Except in the case of group accounts, a provision for deferred income tax shall be offset against future income tax benefit brought to account, to the extent that income tax covered by the provision is likely to become payable in the same financial periods as the future income tax benefit is expected to become realisable.

Group accounts

.20 A future income tax benefit brought to account by one company in a group of companies shall not be offset against a provision for deferred income tax brought to account by another company in the group of companies, when drawing up group accounts.

Taxes on distribution of profits and reserves

.30 Where accounts or group accounts include profits and reserves of branch operations or subsidiaries which, on distribution to the company or holding company, will be subject to overseas withholding tax or to further Australian income tax, the reduction which this future tax will impose on the amount ultimately available to the company or holding company shall be brought to account as provision for deferred income tax in the accounts or group accounts unless there is evidence that the company or holding company intends to leave those profits and reserves indefinitely in the hands of the branch operations or subsidiaries.

Changes in income tax rates

.40 Whenever there is a change in the income tax rate, either or both of the provision for deferred income tax and the future income tax benefit brought forward from the previous financial period shall be adjusted accordingly. If the adjustment is material, the corresponding amount brought to account in the profit and loss account shall be disclosed.

Transitional provision

.50 Where the accounting treatments required by this standard are not already being applied at the date this standard is first applied they shall be applied retrospectively. Where this gives rise to initial adjustments, the net amount of these adjustments shall, in accordance with clause .11 of Approved Accounting Standard ASRB 1018: Profit and Loss Accounts, be adjusted against retained profits or accumulated losses at the beginning of the financial period in which this standard is first applied.

COMMENTARY

Differences between taxable income or tax loss and pre-tax accounting profit or loss

(i) Under Australian income tax legislation, the amount of tax levied against a company is based upon its taxable income or tax loss which will often differ in amount from its pre-tax accounting profit or loss because of permanent and timing differences.

(a) Permanent differences

(ii) Permanent differences alter the incidence of income tax in relation to the pre-tax accounting profit or loss of the financial period in which they occur, but do not affect income tax calculations in respect of subsequent financial periods. An example of an item creating a permanent difference under present income tax legislation is non-allowable depreciation on buildings.

(b) Timing differences

(iii) Timing differences will result in the amount of income tax expense being either greater or less than the income tax payable for the financial periods in which the differences originate and then reverse. Four sets of circumstances give rise to timing differences:

(a) items of revenue included in the determination of pre-tax accounting profit or loss before they are included in taxable income or tax loss, for example, gross profits on instalment sales brought to account for accounting purposes in the financial period of sale but assessable for tax purposes in the financial periods during which the instalments are collected;

(b) expenses deducted in determining taxable income or tax loss before they are deducted in the determination of pre-tax accounting profit or loss, for example, research and development costs deducted for tax purposes as incurred but carried forward in the accounts to be charged against future revenue;

(c) items of revenue included in taxable income or tax loss before they are included in the determination of pre-tax accounting profit or loss, for example, rents or insurance premiums collected in advance and reported for tax purposes in the financial period in which they are received but deferred

for accounting purposes until later financial periods when they are recognised as being earned; and

(d) expenses deducted in the determination of pre-tax accounting profit or loss before they are deducted in the determination of taxable income or tax loss, for example, provisions for guarantees and product warranties, or provision for long service leave made for accounting purposes on an estimated basis in the financial period in which the related revenue is brought to account, but only allowed for tax purposes in later financial periods when payment is made or when the liability becomes certain.

The liability method of tax-effect accounting

(iv) The liability method (sometimes referred to as the accrual method) is based on the assumption that a provision for deferred income tax arises whenever:

(a) an item of revenue is recognised in the determination of pre-tax accounting profit or loss before it is included in taxable income or tax loss; or

(b) an expense is deducted in calculating taxable income or tax loss before it is recognised in the determination of pre-tax accounting profit or loss;

and conversely, that an asset in the nature of a future income tax benefit arises whenever:

(c) an item of revenue is included in taxable income or tax loss before it is recognised in the determination of pre-tax accounting profit or loss; or

(d) an expense is recognised in the determination of pre-tax accounting profit or loss before it is deducted in calculating taxable income or tax loss.

(v) The estimated amounts of this liability and this asset are determined by calculating the difference between income tax expense and income tax payable, using the tax rate or rates that are expected to apply when the underlying timing differences reverse. The estimates are later amended if the expected tax rates change or new taxes are imposed.

(vi) The adoption of the liability method thus results in income tax expense being accrued in the same way as any other expense. Where timing differences have the effect of postponing the payment of tax, the liability method results in both the matching of expense with revenue and the bringing to account of the liability for income taxes payable in the future. Timing differences which result in the prepayment of income tax are also brought to account as assets in order to avoid overstating expenses in the financial periods in which the timing differences originate, and understating expenses in the financial periods in which these differences reverse.

(vii) Accounts and group accounts prepared using the liability method of tax-effect accounting will at all times show any provision for deferred income tax and any future income tax benefit at the tax rates that, at the time the accounts and group accounts are prepared, are expected to apply when the underlying timing differences reverse. On this basis, provision for deferred income tax and future income tax benefits are generally measured using the current rate of income tax. However, when it is known that a different rate of tax will apply by the time

intention to change the rate of income tax to another specified rate is normally accepted as adequate evidence that a change to that rate will occur.

Future income tax benefits

(viii) Tax-effect accounting procedures can be expected to give rise to provision for deferred income tax in respect of timing differences and future income tax benefits in respect of both timing differences and tax losses. Whilst there would appear to be no reason to question the bringing to account of provision for deferred income tax attributable to timing differences and the carrying forward of such a provision under tax-effect accounting procedures, it would appear to be necessary and appropriate to examine the asset which arises on the application of tax-effect accounting procedures to determine whether or not in all cases it is appropriate to carry forward such an asset to future financial periods.

(ix) Accounting principles normally require a write-down of assets where they are not expected to realise their carrying amounts. In accordance with these principles, future income tax benefits carried forward as assets are examined to determine whether realisation of the related benefit is assured beyond any reasonable doubt. In considering this matter it should be noted that realisation will take the form of a charge against future pre-tax accounting profit or loss and therefore the ability of a company to earn adequate profits and taxable income in future financial periods must be assured beyond any reasonable doubt if future income tax benefits are to be brought to account as assets. A determination as to the ability of a company to earn a sufficient level of profits in future financial periods will be influenced by whether or not a company has a history of profitable operations and is currently profitable.

(x) Where a company incurs a tax loss, significant doubts must arise as to the ability of such a company to realise the related future income tax benefit and in these circumstances it is considered that it would be imprudent to bring to account as an asset the future income tax benefit attributable to the tax loss unless realisation of the benefit is virtually certain. It is considered that this test of virtual certainty will only be met in rare and exceptional cases. However, where a company incurs a tax loss, realisation of the future income tax benefit can, to some extent, be regarded as virtually certain where there is already in existence as a liability, a provision for deferred income tax. The extent to which realisation can be regarded as virtually certain is the extent to which deferred income tax has already been provided in respect of timing differences which will reverse in the financial periods during which the tax loss will remain available as a deduction. In these circumstances, when a loss is incurred, the benefit of the tax loss arising therefrom can be treated as effectively realised (and can be brought to account in the form of a reduction in the provision for deferred income tax) on the basis that the tax provided as a cover against the future reversal of timing differences will not become payable whilst the tax loss remains unrecouped and available as a deduction from future assessable income.

(xi) Since it is not appropriate to draw a distinction between:

(a) the ability of a company which incurs a loss to realise the future income tax benefit attributable to the loss; and

(b) the ability of such a company to realise a future income tax benefit attributable to timing differences;

it would be appropriate in the case of such a company to apply the same test of virtual certainty as to realisation in determining whether the company should

(xii) *Where a company which incurs a tax loss has either not brought to account a future income tax benefit attributable to that loss or has written off future income tax benefits brought forward in relation to timing differences, there would be no reason to preclude such a company from recording such benefits as assets in a later financial period should it return to profitable operations and meet the requirement as to virtual certainty of realisation.*

Revaluations and disposals of depreciable assets

(xiii) *Where a revaluation of an asset which is depreciable for income tax purposes has resulted in an increase in the amount at which that asset is carried in the accounts and group accounts, this increase is depreciated over the remaining useful life of the asset. As the additional depreciation charge is not an allowable deduction for income tax purposes, the revaluation results in a permanent difference in subsequent financial periods between pre-tax accounting profit or loss and taxable income or tax loss which is taken into account in determining the amount of income tax expense.*

(xiv) *Where the amount received on the disposal of a depreciable asset exceeds its depreciated value, a liability for income tax may arise in respect of all or part of the excess. Where an election is made under sub-section 59(2A) of the Income Tax Assessment Act 1936 to reduce the cost, for the purpose of calculating depreciation allowable under this Act, of other units of property by the assessable portion of the excess, that amount is treated as a timing difference.*

Interim accounts and group accounts

(xv) *The calculation of the income tax expense to be shown in interim accounts and group accounts is based on the tax rate expected to be applicable for the full financial year, and reflects the incidence of any permanent differences and timing differences which have been caused by transactions or events during the period covered by the interim accounts and group accounts.*

PROBABILITY EXPRESSION RESEARCH INSTRUMENT

GROUP 4

GENERAL INSTRUCTIONS

The following research instrument is gathering information from experienced auditors about an expression currently used in an Australian accounting standard. The accounting standard has been placed in the appendix should you need to refer to it. The research is concerned with judgements that you make in your working environment and we would like you to provide answers that reflect your judgements in the "real world" environment.

Part A contains one question on the numerical level of probability that you associate with a particular probability expression.

Part B contains two real (though simplified) cases, and for each case, you are asked to make three judgements. Even if you feel that there is not enough information please endeavour to work with the information available to you.

Part C contains a question dealing with your beliefs about the meaning of a particular probability expression.

Finally, Part D contains some general questions and some questions concerning biographical details.

You should complete the questionnaire without consulting your peers but please speak with the person coordinating this research if you have any queries. Once you have answered a question move on to the next question and do not go back and change any previous answers.

We greatly appreciate your participation in this research and stress that there are no **"trick" questions** and **no right or wrong answers** to the questions being asked.

PART A

"AASB 1009 Accounting For Construction Contracts" clause .20 states that a material loss on a construction contract, whether it is in relation to work which is completed or relates to work which is yet to be completed, must be bought to account as soon as it is foreseeable.

What is the minimum level of numerical probability (between 0 – 100% inclusive) that you believe to be equal to the phrase "foreseeable"?

"Foreseeable" means at least - _____%

PART B

CASE 1

Quadstrad Ltd is a publicly listed company incorporated in 1956. Its principal activities are in real estate investment and the construction industry. During the current financial year ended 30 June 1994 Quadstrad Ltd incurred material costs on a fixed price construction project that it could not have anticipated when tendering for the contract. As a consequence the profit margin on the contract was greatly reduced. An additional concern for the directors of Quadstrad Ltd centres around one of the terms of the contract which states that should work on the construction site be adversely affected by more than three consecutive days of inclement weather any resulting costs could not be passed on to the buyer. Given the previously mentioned reduction of profit margins on this contract, further costs resulting from down time caused by the weather could result in a loss on the contract. The construction site is in Melbourne, Australia where it is probable that weather could become inclement for more than three consecutive days. The construction is due to be completed in November 1994 and the predictions for future economic, climactic, industrial and legislative conditions in Australia are the same as those that you are currently applying in your working environment.

REQUIRED

Assume you are the auditor for Quadstrad Ltd in the current financial year ended 30 June 1994 and you are assessing the situation with respect to the probability of future losses on the above contract.

1. Given the facts of the case, how probable is it that the company will realise a loss on the contract?

   Please express your answer in terms of a numerical probability between 0 – 100% (inclusive). _____%

2. What is the minimum level of numerical probability (between 0 – 100% inclusive) that you believe to be equal to the expression "foreseeable"?

   "Foreseeable" means at least - _____%

3. Would you recognise the future loss as an expense in the profit and loss account for the year ended 30 June 1994?

   Circle your response: YES / NO

CASE 2

Palcec Ltd is a publicly listed company incorporated in 1930 which has its major operations in the construction industry. In July 1991 Palcec Ltd entered into a four year, fixed price contract to build a multi-level building in Melbourne, Australia with an estimated profit of $2 million dollars. Due to major industrial disputes in the current financial year ended 30 June 1994 it became obvious that Palcec Ltd would sustain a material loss on the contract if there were any future delays of a similar nature. The contract included protection for Palcec Ltd on delays caused by weather or some other uncontrollable aspect of the industry but the company was not protected with respect to industrial disputes. The industrial problems have been resolved however, as at 30 June 1994, the financial accountant was very conscious of the fact that further industrial disputes would mean a material loss on the contract. The predictions for future economic, climactic, industrial and legislative conditions in Australia are the same as those that you are currently applying in your working environment.

REQUIRED

Assume you are the auditor for Palcec Ltd in the current financial year ended 30 June 1994 and you are assessing the situation with respect to the probability of future losses on the above contract.

1. Given the facts of the case, how probable is it that the company will realise a loss on the contract?

   Please express your answer in terms of a numerical probability between 0 – 100% (inclusive). _____%

2. What is the minimum level of numerical probability (between 0 – 100% inclusive) that you believe to be equal to the expression "foreseeable"?

   "Foreseeable" means at least - _____%

3. Would you recognise the future loss as an expense in the profit and loss account for the year ended 30 June 1994?

   Circle your response: YES / NO

PART C

In this part of the questionnaire we are interested in your opinions on a particular probability expression which is used in an Australian accounting standard. Though you may feel it is difficult to generalise, we would like you to express your opinions as accurately as you can. As with your responses in Part A and B **there are no right or wrong answers.**

We want you to describe your opinions about a particular probability expression using certain scales (known as "adjectival pairings" e.g. CONTROLLABLE : UNCONTROLLABLE or GOOD : BAD). The following instructions are to be used in completing the questionnaire:

1. Please indicate your response to each scale by placing a cross (X) in the space that best describes your response.

   For example, if you feel that the probability expression is a concept that tends to be something which is controllable indicate this as below:

   CONTROLLABLE : X : _ : _ : _ : _ : _ : UNCONTROLLABLE

   If on the other hand you feel that the probability expression is a concept that tends to be uncontrollable, indicate this as below:

   CONTROLLABLE : _ : _ : _ : _ : _ : X : UNCONTROLLABLE

   If you think the scale (adjectival pairing) is irrelevant to describing the probability expression then place a cross (X) on the mid-point of the scale as indicated below:

   CONTROLLABLE : _ : _ : _ : X : _ : _ : _ : UNCONTROLLABLE

2. If the probability expression has no meaning to you (i.e. you have no idea what the phrase means) then **do not** place a cross on **any** of the scales. Instead place a cross (X) in the box labelled " NO MEANING".

Turn the page to complete this part of the questionnaire.

"AASB 1009 Accounting For Construction Contracts" clause .20 states that a material loss on a construction contract, whether it is in relation to work which is completed or relates to work which is yet to be completed, must be brought to account as soon as it is foreseeable. With respect to recognising future losses in the profit and loss account the expression "foreseeable" tends to be:

EXACT	: _ : _ : _ : _ : _ : _ :	ESTIMATED
BAD	: _ : _ : _ : _ : _ : _ :	GOOD
MEASURABLE	: _ : _ : _ : _ : _ : _ :	UNMEASURABLE
NECESSARY	: _ : _ : _ : _ : _ : _ :	UNNECESSARY
PLANNED	: _ : _ : _ : _ : _ : _ :	UNPLANNED
OBJECTIVE	: _ : _ : _ : _ : _ : _ :	SUBJECTIVE
TANGIBLE	: _ : _ : _ : _ : _ : _ :	INTANGIBLE
STRONG	: _ : _ : _ : _ : _ : _ :	WEAK
INDIRECT	: _ : _ : _ : _ : _ : _ :	DIRECT
VARIABLE	: _ : _ : _ : _ : _ : _ :	CONSTANT
SAFE	: _ : _ : _ : _ : _ : _ :	RISK
COMPLETE	: _ : _ : _ : _ : _ : _ :	INCOMPLETE
DISCRETIONARY	: _ : _ : _ : _ : _ : _ :	REQUIRED
REAL	: _ : _ : _ : _ : _ : _ :	IMAGINARY
BENEFICIAL	: _ : _ : _ : _ : _ : _ :	ADVERSE
TEMPORARY	: _ : _ : _ : _ : _ : _ :	PERMANENT
CONTROLLABLE	: _ : _ : _ : _ : _ : _ :	UNCONTROLLABLE
UNEXPECTED	: _ : _ : _ : _ : _ : _ :	EXPECTED
PASSIVE	: _ : _ : _ : _ : _ : _ :	ACTIVE
STATIC	: _ : _ : _ : _ : _ : _ :	DYNAMIC
LONG TERM	: _ : _ : _ : _ : _ : _ :	SHORT TERM
INFLEXIBLE	: _ : _ : _ : _ : _ : _ :	FLEXIBLE

☐ The concept has NO MEANING for me

PART D

1. Did you understand the question that was asked in Part A of this questionnaire?

   Circle the correct response: YES / NO

2. If your answer to question 1 was "NO" please explain below. If your answer was "YES" to question 1 proceed to question 3.

   _____

   _____

   _____

   _____

   _____

3. Did you understand all the questions asked in Part B of this questionnaire?

   Circle the correct response: YES / NO

4. If your answer to question 3 was "NO" please explain below. If your answer was "YES" to question 3 proceed to question 5.

   _____

   _____

   _____

   _____

   _____

5. In Part B of this questionnaire you were asked to make judgements in the context of two real though simplified cases. Due to the nature of this research the cases had to be brief and simplified. For example, information about your own time and budget constraints, cashflow forecasts and client budgets, first hand knowledge of the company and other issues that you would normally face in your daily working environment could not be provided. The following question is <u>not</u> asking about these matters or about the quality of the information you were provided with. The following question is asking for your opinion about the three <u>decisions</u> that you were asked to make in each of the cases. When answering the question place a cross (X) in the space which best reflects your answer.

Would you agree or disagree with the following statement:

Although the information in the cases was brief and simplified, the actual decisions that you were asked to make in Part B are similar to the decisions that you make in your working environment.

AGREE **I : : : : : : I** DISAGREE

6. Did you understand the question asked in Part C of this questionnaire?

Circle the correct response: YES / NO

7. If your answer to question 6 was "NO" please explain below. If your answer was "YES" to question 6 proceed to question 8.

_____

_____

_____

_____

_____

8. What is the minimum numerical level of probability (with respect to the realisation of future losses) that <u>you</u> believe should be reached before you would recognise a loss in the profit and loss account?

The expense recognition probability should be at least : _____%

9. What is the minimum numerical level of probability (with respect to receiving future revenue) that you believe should be reached before you would recognise revenue in the profit and loss account?

The revenue recognition probability should be at least: _____%

10. Would your answer to questions 8 and/or 9 change depending upon the facts of the case?

Circle the correct response: YES / NO

Briefly explain:

_____

_____

_____

_____

_____

11. How many years have you worked as an accountant/auditor?: _____yrs.

12. Is there anything that you wish to comment on in regard to this questionnaire?:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Many thanks – your participation is greatly appreciated.

APPENDIX

AASB 1009: Accounting for Construction Contracts

Introductory Comments by the Technical Editors (L L-S: Amended CWP 1991)

The following introductory note has been prepared by the Technical Editors and does NOT form part of the approved accounting standard.

Approved accounting standard ASRB 1009: Accounting for Construction Contracts was approved on 14 November 1986 and is effective for financial years ending on or after 30 June 1987. The standard was approved following the issue of ASRB Release 408 in March 1986. This "exposure draft" did not comply with the procedures outlined in ASRB Release 200: Procedures for the Approval of Accounting Standards, paragraph 4.3, having been released under the "fast-track" system announced in NCSC Media Release 85/63 which was designed to "clear the backlog in standards awaiting approval". The ASRB has expressed the view that this resulted in approval of standards which were not "consistent with the assumptions set out in ASRB Release 100" [ASRB Release 302: Annual Report 1985-1986, paragraph 5.2]. Fast-tracking was abandoned when all standards capable of such treatment had been considered by the Board [ASRB Release 303: Annual Report 1986-1987, paragraph 5.2]. The corresponding AAS standard is AAS 11.

Although the power of the ASRB to issue standards under section 266B of the *Companies Code* is limited to companies, other entities may be required by other laws to comply with standards approved by the ASRB under the *Companies Code*. The obligation of members of the Australian Society of Certified Practising Accountants and the Institute of Chartered Accountants in Australia to comply with AAS standards, when there is a corresponding ASRB standard, is explained in the 1990 reissue APS 1 "Conformity with Statements of Accounting Concepts and Accounting Standards", as being limited to reporting entities *other than* those "required by legislation, ministerial directive or other government authority to comply with applicable Approved Accounting Standards" [paragraphs 6 and 9]. This policy change was announced on 30 May 1989 and was immediately effective.

In July 1991, the Australian Accounting Standards Board issued Accounting Standard AASB 1025: Application of the Reporting Entity Concept and Other Amendments. Notice of the approval of this Standard was published in the Commonwealth of Australia Gazette on 23 August 1991. The Standard applies to financial years ending on or after 30 June 1992. Subsection 285(3) of the Corporations Law allows directors of a company to elect in writing that a Standard made under section 32 of the Corporations Act 1989 which has not yet come into operation (i.e., does not apply to the particular financial year, apart from sub-section (4)) shall apply to the financial year.

The principal objective of AASB 1025 is to put into place in all ASRB Standards the AASB's policies concerning the reporting entity concept, the application of materiality, interpretation provisions and transitional provisions. In respect of ASRB 1009, amendments are made to Citation (1009.00), Application (1009.02), Interpretation (1009.04), Materiality (1009.05), Definitions (1009.06) and Transitional (1009.60) clauses.

End of Introductory Comments by the Technical Editors

Citation

.00 This statement, with the exception of the words shown in italics, may be cited as Approved Accounting Standard ASRB 1009: Accounting for Construction Contracts.

Endorsed explanatory material

.01 The words shown in italics do not form part of the approved standard. They are published with the standard as an aid to its interpretation.

Explanatory material is set out in two ways –
(a) immediately after certain of the requirements; and
(b) as a commentary at the end of the standard.

Application

.02 This approved accounting standard applies to –
(a) the accounting by a contractor for all construction contracts; and

(b) in relation to the first financial year of a company that ends after the expiration of seven calendar months and 15 days from the day on which this notice is published in the Gazette and in relation to subsequent financial years of the company.

This standard was published in the Gazette on 14 November 1986 and applies to the financial years of a company that end on or after 30 June 1987.

In all cases, compliance with a requirement of a standard is subject to any relevant provision of the Code.

Section 273 of the Code provides that the National Companies and Securities Commission may in certain cases make an order relieving the Directors of a company or class of companies from any specified requirements relating to accounts or group accounts.

The National Companies and Securities Commission has advised the Accounting Standards Review Board that it will consider issuing a Section 273 order relieving companies from the obligation to show the corresponding amounts for the immediately preceding financial year in respect of the first financial year to which a standard applies to a company, provided that those amounts would not otherwise be required to be shown. This obligation is set out in clause 12 of Schedule 7 as in force immediately before 1 October, 1986.
[Editorial note 1: No such class order was issued; see the introductory comment for further information.]

Statement of purpose

.03 The purpose of this accounting standard is to require in respect of construction contracts in progress –
(a) profits to be progressively brought to account;
(b) losses to be brought to account as soon as they are foreseeable; and
(c) the disclosure of material information;
so that users entitled to rely on the accounts or group accounts are able to assess the financial effects of those contracts on the company or group of companies.

Interpretation

.04 Where there is a conflict between the interpretation of a provision of this standard and the statement of purpose, the statement of purpose shall prevail.

Application of materiality: Accounting for Construction Contracts

.05 Information about accounting for construction contracts is material if its omission, non-disclosure or mis-statement is likely to affect economic decisions, or other evaluations, made by users entitled to rely on the accounts or group accounts. A loss or a cost in respect of a construction contract is material if information relating to it is material.
[Editorial note 2: The spelling error of "construction" rather than "construction" was in the standard as gazetted.]

Definitions

.06 In this approved accounting standard unless the contrary intention appears –

"brought to account" has the same meaning as that expression has in ASRB 1001: Accounting Policies – Disclosure, as applying from time to time;

"Code" has the same meaning as that expression has in ASRB 1001: Accounting Policies – Disclosure, as applying from time to time;

"construction contract" means a contract relating to construction work and includes –
(a) contracts to design, build, construct or produce;
(b) construction management contracts; and
(c) contracts for architectural, engineering and other services relating to construction work.

For endorsed comment see

Paragraph (xix) – Examples of construction contracts

"construction management contract" means a contract relating to the supervision and co-ordination of the construction activity on a project, including the negotiation of contracts with others for the construction work;

"contractor" means, in relation to a construction contract, a company that enters into a contract to build structures, construct facilities, produce goods, or render services to the specifications of a buyer either as a general or prime contractor, as a subcontractor to a general contractor, or as a construction manager;

"cost plus contract" means a construction contract where the contractor agrees to be reimbursed for agreed costs, plus an additional amount whether calculated as a fixed fee or as a percentage of agreed costs;

"fixed price contract" means a construction contract where the contractor agrees to a fixed total contract price or to a fixed charge per unit of work, whether or not such contract includes a rise and fall clause;

"gross amount of construction work in progress" means all costs incurred plus any profits brought to account less any losses brought to account including foreseeable losses;

"percentage of completion method" means the method of profit recognition whereby profit is brought to account in proportion to work performed on a construction contract for each financial year in which construction occurs.

Relevant provisions of the Code include:

Sub-section 266E(1) – "Unless the contrary intention appears in the accounting standard, an expression used in an approved accounting standard has the same meaning as the expression has in this Part (Part VI)"

Sub-section 5(1) – definition of "financial year"

Sub-section 266(1) – definitions of "accounts" and "group accounts"

Method of profit recognition

Fixed price contracts

.10 The amount of profit on fixed price contracts shall be brought to account in accordance with the percentage of completion method when all of the following conditions are satisfied –
(a) total contract revenues to be received can be reliably estimated;
(b) the costs to complete the contract can be reliably estimated;
(c) the stage of contract completion can be reliably determined; and
(d) the costs attributable to the contract to date can be clearly identified and can be compared with prior estimates.

Cost plus contracts

.11 The amount of profit on cost plus contracts shall be brought to account in accordance with the percentage of completion method when all of the following conditions are satisfied –
(a) the costs attributable to the contract to date can be clearly identified;
(b) costs other than those that are specifically reimbursable under the contract can be reliably estimated; and
(c) where payment under the terms of the contract is calculated by reference to the stage of completion – that stage can be reliably determined.

Conditions not satisfied

.12 If the conditions specified in clause .10 or clause .11, whichever is appropriate to the form of contract used, are not satisfied, either at the inception of a construction contract or during the course of a contract, no profit shall be brought to account until they are so satisfied.

For endorsed comment on clauses .10 to .12 see:

Paragraph (i) – Approach of ASRB 1009

Paragraphs (ii) and (iii) – Measurement of the percentage of completion

Paragraph (vii) – Periodic review of profit and construction work in progress

Provision for foreseeable losses

.20 A material loss on a construction contract, whether in relation to work completed or yet to be completed, shall be brought to account as soon as it is foreseeable.

For endorsed comment see:

Paragraph (vi) – Provision for foreseeable losses

Construction work in progress

.30 The costs to be included in the amount at which construction contract work in progress is stated shall comprise those costs that relate directly to a specific contract and those costs that are attributable to the contract activity in general that are capable of being allocated on a reasonable basis to specific contracts.

For endorsed comment see:

Paragraphs (iv) and (v) – Costs of construction contracts

Paragraph (vii) – Periodic review of profit and construction work in progress

Variations and penalties

.40 Amounts recoverable in respect of claims and variations shall be brought to account as revenue where the following conditions are satisfied –
(a) there is reasonable assurance that additional revenue will result from such claims; and
(b) the amount recoverable can be reliably estimated.

.41 The estimated costs of penalties shall, if material, be brought to account as costs attributable to the contract when it is probable that the criteria specified in the contract as minimum acceptable levels of performance will not be met.

For endorsed comment on clauses .40 and .41 see:

Paragraph (viii) – Claims by the contractor

Paragraphs (ix) to (xii) – Variation orders

Paragraph (xiii) – Penalty clauses

Paragraph (xiv) – Reward clauses

Paragraph (xv) – Performance guarantees

Disclosure in the accounts and group accounts

.50 The balance sheet, or the notes to the balance sheet, forming part of the accounts and group accounts, shall disclose the gross amount of construction work in progress and, as a deduction therefrom, the related aggregate progress billings. If progress billings exceed the gross amount of construction work in progress, the net amount shall be shown as a current liability.

.51 There shall also, if material, be separate disclosure in a note in the accounts and group accounts of the aggregate of cash received and

receivable as progress billings (including retention allowances) and advances on account of construction work in progress.

For endorsed comment on clauses .50 and .51 see:

Paragraph (xvi) – Retention allowances

Paragraph (xvii) – Advances on account of construction work in progress

Paragraph (xviii) – Disclosure of accounting policies

COMMENTARY

Approach of ASRB 1009

(i) *The percentage of completion method provides a measure of periodic accomplishment. Application of the percentage of completion method involves estimates, particularly in respect of revenue and costs. This accounting standard requires that periodic profit on a construction contract is to be determined on the percentage of completion basis and brought to account when progress on the construction contract permits the outcome of a contract to be reliably estimated. This may occur in some circumstances only on completion of the contract.*

Measurement of the percentage of completion

(ii) *The percentage of completion method can be measured in three ways –*
(a) physical estimates or surveys of the work performed to date;
(b) the cost basis – this method involves calculating the proportion that costs incurred to date bear to the estimated total costs of the contract; and
(c) the billings basis – this method involves calculating the proportion that billings to date bear to the total estimated billings for the contract and should only be applied when it provides a reliable measure of work performed.

(iii) *When the percentage of contract completion is measured using the cost basis, adjustments are to be made to include only those costs that reflect work performed. Examples of items which may need adjustment are –*
(a) materials purchased that have not been installed or used in the contract performance;
(b) payments to subcontractors to the extent that they do not reflect the amount of work performed under subcontracts; and
(c) penalties incurred by the contractor.

Costs of construction contracts

(iv) *The costs incurred by a company or group that undertakes construction contracts can be divided into –*
(a) costs that relate directly to a specific contract, for example:
- *direct labour costs (labour employed specifically on a contract including direct supervision);*
- *direct materials (materials used in the contract);*
- *depreciation of plant and equipment used on a contract;*
- *costs of moving plant and equipment to and from a site;*
- *expected warranty costs.*

(b) costs that are attributable to the contract activity in general and are capable of being allocated on a reasonable and consistent basis to specific contracts, for example:
- *tender preparation;*
- *insurance;*
- *design and technical assistance;*
- *project overheads.*

(c) costs that relate to the activities of the company or group generally, or that relate to contract activity generally and are normally not related to specific contracts, for example:
- *general administration and selling costs;*
- *finance costs;*
- *research and development costs;*
- *depreciation of idle plant and equipment.*

(v) *Costs referred to in paragraph (iv)(c) are usually excluded from accumulated contract costs because they do not relate to reaching the present stage of completion of a specific contract. However, in circumstances where such costs are capable of being attributed to a particular contract they may be included as part of accumulated contract costs.*

Provision for foreseeable losses

(vi) *When current estimates of total contract costs and revenues for any contract indicate that a material loss is probable, the loss is to be brought to account regardless of the amount of work performed on the contract.*

Periodic review of profit and construction work in progress

(vii) *Application of the standard necessarily involves periodic assessment of the percentage of completion reached and of the total estimated profits on a contract. The profit brought to account in any one period may reflect an adjustment to the profit on the contract previously brought to account. In addition the application of the standard requires that the amount of construction work in progress carried in the balance sheet be reviewed regularly. Any amount not recoverable is required to be written off.*

Claims by the contractor

(viii) *In some contracts a contractor may claim compensation, in addition to the agreed contract price, for customer caused delays, errors in specification and design or for other reasons which were unforeseen and which resulted in additional cost to the contractor. The existence of possible claims may be known before completion of the contract, or may only emerge after the physical completion of the contract. These claims may not be settled for the amount which the contractor originally proposes as fair compensation as the ultimate amount to be collected depends on many factors, including the contractor's negotiating ability, the financial strength of the two parties, and the cost implications of possible litigation.*

Variation orders

(ix) *A variation order involves a change in the scope of the work to be performed under the contract. Variation orders include changes in the method or manner of the work, changes in specifications or design and changes in the period of completion of the work. Variation orders can be initiated by either the contractor or the customer. They may also be priced or unpriced. Unpriced variation orders define the work to be performed, but the adjustment to the contract price is to be determined at a later date.*

(x) *Where variation orders are priced and agreed upon by the parties to the contract, the contract revenues and costs are to be adjusted to reflect the variation order.*

(xi) *Contractor initiated changes have the attributes of a claim and are to be evaluated in the light of the criteria specified in clause .40.*

(xii) *Additional revenue from unpriced customer initiated changes are to be brought to account on the basis specified in clause .40.*

Penalty clauses

(xiii) *Many construction contracts contain provision for penalties for falling short of various performance standards stipulated in the contract, for example, failure to complete the contract by the stipulated date. Such penalties are to be brought to account as costs when it is probable that the criteria specified in the contract as minimum levels of performance will not be met.*

Reward clauses

(xiv) *A limited number of construction contracts include reward clauses for bettering the specified performance standards. Revenues from such clauses are required by the standard to be brought to account when there is reasonable assurance that the criteria specified in the contract have been met.*

Performance guarantees

(xv) *Many construction contracts require that security be given by the contractor to the client before commencing the contract guaranteeing the performance of the contractor during the construction and maintenance periods. The security may take several forms, including:*
(a) lodging of assets (including cash, government bonds or inscribed stock); and
(b) third party guarantees (including bank guarantees, insurance bonds or insurance guarantee policies).

Retention allowances

(xvi) *Retention allowances are amounts of contract revenue which have been included in progress billings and have been withheld from payment by customers until a final acceptance of satisfactory completion of the job or the end of a specified period. They are brought to account as amounts receivable from customers.*

Advances on account of construction work in progress

Disclosure of accounting policies

(xviii) *As is required under ASRB 1001 "Accounting Policies – Disclosure" the summary of accounting policies included in the accounts or group accounts will provide details of all policies which have been significant in the preparation and presentation of the accounts and group accounts. The summary will therefore include all material details of the basis used to bring to account profit on construction contracts. This could include, for example, details of the minimum percentage of completion at which profits are initially brought to account in respect of contracts for various kinds of construction work.*

Examples of construction contracts

(xix) *Examples of construction contracts include, but are not limited to, contracts for general building, heavy earth moving, dredging, demolition, dams, pipelines, tunnels, ships and transport vessels.*

PROBABILITY EXPRESSION RESEARCH INSTRUMENT

GROUP 5

GENERAL INSTRUCTIONS

The following research instrument is gathering information from experienced auditors about an expression currently used in an Australian accounting standard. The accounting standard has been placed in the appendix should you need to refer to it. The research is concerned with judgements that you make in your working environment and we would like you to provide answers that reflect your judgements in the "real world" environment.

Part A contains one question on the numerical level of probability that you associate with a particular probability expression.

Part B contains two real (though simplified) cases and for each case you are asked to make three judgements. Even if you feel that there is not enough information please endeavour to work with the information available to you.

Part C contains a question dealing with your beliefs about the meaning of a particular probability expression.

Finally, Part D contains some general questions and some questions concerning biographical details.

You should complete the questionnaire without consulting your peers but please speak with the person coordinating this research if you have any queries. Once you have answered a question move on to the next question and do not go back and change any previous answers.

We greatly appreciate your participation in this research and stress that there are **no "trick" questions** and **no right or wrong answers** to the questions being asked.

PART A

"AASB 1011 Accounting For Research and Development Costs" clause .31 states that research and development costs incurred during the financial year shall be deferred to future financial years to the extent that such costs are expected beyond any reasonable doubt to be recoverable.

What is the minimum level of numerical probability (between 0 - 100% inclusive) that you believe to be equal to the phrase "expected beyond any reasonable doubt"?

"Expected beyond any reasonable doubt" means at least - _____%

PART B

CASE 1

Qarad Ltd is a very successful public company incorporated in 1983. Its profits and growth have come principally from the research, development and marketing of new food products both in Australia and overseas. It is currently developing a revolutionary new form of dietary fibre known as "Dietfibre", to be used in breakfast cereals. Having commenced work on Dietfibre less than 18 months ago, further development must be carried out before it is definite that Dietfibre will be saleable. Although no contracts have been signed, considerable interest has been shown by three extremely large companies involved in selling breakfast cereals. All basic and applied research costs associated with Dietfibre were written off by Qarad Ltd. The directors and senior management of Qarad Ltd want to capitalise the development costs on Dietfibre which, if capitalised, will represent a material asset in the company's balance sheet. Initial testing on Dietfibre has been extremely promising and the directors expect the project to be a very profitable one. However, no budgets or cashflow forecasts have been prepared since a pilot plant has not been established and it is too early in the development of Dietfibre. Qarad Ltd has an extremely profitable history and if Dietfibre were to be unsuccessful, the losses, although material, would not put the company in any sort of financial distress. Future economic, climactic, industrial and legislative conditions are the same as those that you are currently applying in your working environment.

REQUIRED

Assume you are Qarad Ltd's auditor for the year ended 30 June 1994. You are assessing the likelihood of Qarad Ltd realising future benefits attributable to the Dietfibre project.

1. Given the facts of the case, how confident are you that the development costs incurred to date on Dietfibre will be recovered through the development and future sale of Dietfibre?

   Please express your answer in terms of a numerical probability between 0 - 100% (inclusive). _____%

2. What is the minimum level of numerical probability (between 0 - 100% inclusive) that you believe to be equal to the expression "expected beyond any reasonable doubt"?

   "Expected beyond any reasonable doubt" means at least - _____%

3. Would you recognise the development costs on Dietfibre as an asset on the balance sheet for the year ended 30 June 1994?

   Circle your response: YES / NO

CASE 2

Amtef Ltd is a public company incorporated in 1992. Its principal activity is the development of a revolutionary computer language (known as "TIM") which, when completed, would be capable of performing specialised tasks required in many technical fields while also being user friendly for the lay person. The developer of TIM (Mrs J. White) and her business associates were the managing director and directors of Amtef Ltd respectively. During the year ended 30/6/1993 Amtef Ltd issued 2 million $1 ordinary shares at a premium of 20 cents per share via a prospectus. The issue was fully subscribed. By 30/6/1993 TIM was valued in the balance sheet at $6.5 million dollars comprising capitalised development costs of $1.5 million and a revaluation increment (after directors revalued the asset) of $5 million. By February 1994 it became evident that the development of TIM was not proceeding according to plan and against Mrs White's advice an independent expert advisory panel was appointed. In June 1994 a report from the independent expert advisory panel concluded that:

> "In its current form TIM appears to be unsuitable for utilisation in contemporary computer systems. This panel recommends that, while it is impossible to accurately predict what the final potential of TIM will be, further development should be discontinued and no further expenditure should be incurred."

Mrs White defended the project stating that TIM was way ahead of current computer technology and, therefore, the panel was not expert enough to accurately assess its potential. She pointed out that the independent panel had stated they had given a responsible, though perhaps slightly conservative view. Immediately prior to the report, TIM was valued at $7.25 million comprising development costs of $2.25 million and the revaluation increment of $5.0 million. The predictions for future economic, industrial and legislative conditions are the same as those that you are currently applying in your working environment.

REQUIRED

Assume you are Amtef Ltd's auditor for the year ended 30 June 1994. You are assessing the recoverability of development costs and future prospects of TIM.

1. Given the facts of the case how confident are you that the company will realise the future economic benefits associated with the development of TIM?

   Please express your answer in terms of a numerical probability
   between 0 - 100% (inclusive). ____%

2. What is the minimum level of numerical probability (between 0 - 100% inclusive) that you believe to be equal to the expression "expected beyond any reasonable doubt"?

   "Expected beyond any reasonable doubt" means at least - ____%

3. Would you recognise "TIM" as an asset on the balance sheet for the year ended 30 June 1994?

   Circle your response: YES / NO

PART C

In this part of the questionnaire we are interested in your opinions on a particular probability expression which is used in an Australian accounting standard. Though you may feel it is difficult to generalise, we would like you to express your opinions as accurately as you can. As with your responses in Part A and B **there are no right or wrong answers**.

We want you to describe your opinions about a particular probability expression using certain scales (known as "adjectival pairings" e.g. CONTROLLABLE : UNCONTROLLABLE or GOOD : BAD). The following instructions are to be used in completing the questionnaire:

1. Please indicate your response to each scale by placing a cross (X) in the space that best describes your response.

   For example, if you feel that the probability expression is a concept that tends to be something which is controllable indicate this as below:

   CONTROLLABLE : X : _ : _ : _ : _ : _ : UNCONTROLLABLE

   If on the other hand you feel that the probability expression is a concept that tends to be uncontrollable, indicate this as below:

   CONTROLLABLE : _ : _ : _ : _ : _ : X : UNCONTROLLABLE

   If you think the scale (adjectival pairing) is irrelevant to describing the probability expression then place a cross (X) on the mid-point of the scale as indicated below:

   CONTROLLABLE : _ : _ : _ : X : _ : _ : _ : UNCONTROLLABLE

2. If the probability expression has no meaning to you (i.e. you have no idea what the phrase means) then **do not** place a cross on **any** of the scales. Instead place a cross (X) in the box labelled "NO MEANING".

Turn the page to complete this part of the questionnaire.

"AASB 1011 Accounting For Research and Development Costs" clause .31 states that research and development costs incurred during the financial year shall be deferred to future financial years to the extent that such costs are expected beyond any reasonable doubt to be recoverable. With respect to recognising deferred research and development costs as an asset in the body of the balance sheet the expression "expected beyond any reasonable doubt" tends to be:

EXACT	:_:_:_:_:_:_:	ESTIMATED
BAD	:_:_:_:_:_:_:	GOOD
MEASURABLE	:_:_:_:_:_:_:	UNMEASURABLE
NECESSARY	:_:_:_:_:_:_:	UNNECESSARY
PLANNED	:_:_:_:_:_:_:	UNPLANNED
OBJECTIVE	:_:_:_:_:_:_:	SUBJECTIVE
TANGIBLE	:_:_:_:_:_:_:	INTANGIBLE
STRONG	:_:_:_:_:_:_:	WEAK
INDIRECT	:_:_:_:_:_:_:	DIRECT
VARIABLE	:_:_:_:_:_:_:	CONSTANT
SAFE	:_:_:_:_:_:_:	RISK
COMPLETE	:_:_:_:_:_:_:	INCOMPLETE
DISCRETIONARY	:_:_:_:_:_:_:	REQUIRED
REAL	:_:_:_:_:_:_:	IMAGINARY
BENEFICIAL	:_:_:_:_:_:_:	ADVERSE
TEMPORARY	:_:_:_:_:_:_:	PERMANENT
CONTROLLABLE	:_:_:_:_:_:_:	UNCONTROLLABLE
UNEXPECTED	:_:_:_:_:_:_:	EXPECTED
PASSIVE	:_:_:_:_:_:_:	ACTIVE
STATIC	:_:_:_:_:_:_:	DYNAMIC
LONG TERM	:_:_:_:_:_:_:	SHORT TERM
INFLEXIBLE	:_:_:_:_:_:_:	FLEXIBLE

☐ The concept has NO MEANING for me

PART D

1. Did you understand the question that was asked in Part A of this questionnaire?

   Circle the correct response: YES / NO

2. If your answer to question 1 was "NO" please explain below. If your answer was "YES" to question 1 proceed to question 3.

   _____

   _____

   _____

   _____

   _____

3. Did you understand the all the questions that were asked in Part B of this questionnaire?

   Circle the correct response: YES / NO

4. If your answer to question 3 was "NO" please explain below. If your answer was "YES" to question 3 proceed to question 5.

   _____

   _____

   _____

   _____

   _____

5. In Part B of this questionnaire you were asked to make judgements in the context of two real though simplified cases. Due to the nature of this research the cases had to be brief and simplified. For example, information about your own time and budget constraints, cashflow forecasts and client budgets, first hand knowledge of the company and other issues that you would normally face in your daily working environment could not be provided. The following question is <u>not</u> asking about these matters or about the quality of the information you were provided with. The following question is asking for your opinion about the three <u>decisions</u> that you were asked to make in each of the four cases. When answering the question place a cross (X) in the space which best reflects your answer.

Would you agree or disagree with the following statement:

Although the information in the cases was brief and simplified, the actual decisions that you were asked to make in Part B are similar to the decisions that you would have to make in your working environment.

AGREE **I : : : : : : I** DISAGREE

6. Did you understand the question asked in Part C of this questionnaire?

Circle the correct response: YES / NO

7. If your answer to question 6 was "NO" please explain below. If your answer was "YES" to question 6 proceed to question 8.

8. What is the minimum numerical level of probability (with respect to the realisation of future economic benefits) that you think should be reached before you would recognise an asset on the balance sheet?

The asset recognition probability should be at least: _____%

9. What is the minimum numerical level of probability (with respect to incurring future economic losses) that you think should be reached before you would recognise a liability on the balance sheet?

The liability recognition probability should be at least: _____%

10. Would your response to questions 8 and/or 9 ever change because it is dependent upon the facts of each particular case?

Circle the correct response: YES / NO

Please explain:

_____

_____

_____

_____

11. How many years have you worked as an auditor?: _____yrs.

12. Is there anything that you wish to comment on in regard to this questionnaire?:

Many thanks - your participation is greatly appreciated.

APPENDIX

AASB 1011: Accounting for Research and Development Costs

Introductory Comments by the Technical Editors (I. L-S: Amended CWP 1991)

The following introductory note has been prepared by the Technical Editors and does NOT form part of the approved accounting standard.

Approved accounting standard ASRB 1011: Accounting for Research and Development Costs was approved on 29 May 1987 and is effective for financial years ending on or after 30 September 1987. The standard was approved following the issue of ASRB Release 408 in March 1986. This "exposure draft" did not comply with the procedures outlined in ASRB Release 200: Procedures for the Approval of Accounting Standards, paragraph 4.3, having been released under the "fast-track" system announced in NCSC Media Release 85/63 which was designed to "clear the backlog in standards awaiting approval". The ASRB has expressed the view that this resulted in approval of standards which were not "consistent with the assumptions set out in ASRB Release 100" [ASRB Release 302: Annual Report 1985-1986, paragraph 5.2]. In the case of ASRB 1010 it has been suggested that the standard failed to satisfy the requirement of being well formulated and internally consistent, particularly in relation to the requirements of clause .25. Doubt has also be expressed whether the netting-off requirement of in clause .25 is consistent with Assumption 10 in ASRB Release 101 as, in terms of the consequences of the measurement, the netting-off suggests an aggregate rather than individual measuring of the assets. Fast-tracking was abandoned when all standards capable of such treatment had been considered by the Board [ASRB Release 303: Annual Report 1986-1987, paragraph 5.2]. The corresponding AAS standard is AAS 13.

Although the power of the ASRB to issue standards under section 266B of the *Companies Code* is limited to companies, other entities may be required by other laws to comply with standards approved by the ASRB under the *Companies Code*. The obligation of members of the Australian Society of Certified Practising Accountants and the Institute of Chartered Accountants in Australia to comply with AAS standards, when there is a corresponding ASRB standard, is explained in the 1990 reissue APS 1 "Conformity with Statements of Accounting Concepts and Accounting Standards", as being limited to reporting entities *other than* those "required by legislation, ministerial directive or other government authority to comply with applicable Approved Accounting Standards" [paragraphs 6 and 9]. This policy change was announced on 30 May 1989 and was immediately effective.

In July 1991, the Australian Accounting Standards Board issued Accounting Standard AASB 1025: Application of the Reporting Entity Concept and Other Amendments. Notice of the approval of this Standard was published in the Commonwealth of Australia Gazette on 23 August 1991. The Standard applies to financial years ending on or after 30 June 1992. Subsection 285(3) of the Corporations Law allows directors of a company to elect in writing that a Standard made under section 32 of the Corporations Act 1989 which has not yet come into operation (i.e., does not apply to the particular financial year, apart from sub-section (4)) shall apply to the financial year.

The principal objective of AASB 1025 is to put into place in all ASRB Standards the AASB's policies concerning the reporting entity concept, the application of materiality, interpretation provisions and transitional provisions. In respect of ASRB 1011, amendments are made to Citation (1011.00), Application (1011.02), Interpretation (1011.04), Materiality (1011.05), Definitions (1011.06) and Transitional (1010.70) clauses.

End of Introductory Comments by the Technical Editors

Citation

.00 This statement, with the exception of the words shown in italics, may be cited as Approved Accounting Standard ASRB 1011: Accounting for Research and Development Costs.

Endorsed explanatory material

.01 The words shown in italics do not form part of the approved standard. They are published with the standard as an aid to its interpretation.

Explanatory material is set out in two ways:
(a) immediately after certain of the requirements; and,
(b) as a commentary at the end of the standard.

Application

.02 This approved accounting standard applies –
(a) to the accounting for research and development activities other than
(i) research and development activities conducted for others under contract; and
(ii) specialised activities, in extractive industries, related to the exploration for and extraction of oil and natural gas reserves and mineral deposits to the extent that those activities are not comparable in nature to the research and development activities of other business enterprises;
(b) in relation to the first financial year of a company that ends after the expiration of four calendar months from the day on which this notice is published in the Gazette and in relation to subsequent financial years of the company.

This standard was published in the Gazette on 29 May, 1987, and applies to the financial years of a company that end on or after 30th September, 1987.

In all cases, compliance with a requirement of an approved standard is subject to any relevant provision of the Code.

Section 273 of the Code provides that the National Companies and Securities Commission may in certain cases make an order relieving the directors of a company from any specified requirements relating to accounts or group accounts.

Statement of purpose

.03 The purpose of this accounting standard is to require –
(a) the application of a method of accounting whereby research and development costs are matched against related benefits when such benefits are expected beyond any reasonable doubt; and
(b) the disclosure of material information which will enable users entitled to rely on the accounts or group accounts to assess the significance of research and development costs incurred by the company or group of companies.

Interpretation

.04 Where there is a conflict between the interpretation of a provision of this standard and the statement of purpose, the statement of purpose shall prevail.

Application of materiality : Accounting for Research and Development Costs

.05 Information about research and development is material if its omission, non-disclosure or mis-statement is likely to affect economic decisions or other evaluations made by users entitled to rely on the accounts or group accounts.

Definitions

"balance date" means the end of the financial year to which the accounts or group accounts relate;

"carrying amount" means –
(a) in relation to an asset, the amount at which the asset is recorded in the accounting records at a particular date after deducting accumulated depreciation or amortisation;
(b) in relation to a class of assets, the sum of the carrying amounts of the assets in that class;

"Code" means, where this approved accounting standard applies in –
(a) the Australian Capital Territory – the Companies Act, 1981, and the regulations made under that Act; or
(b) a State or the Northern Territory – the Companies Code of a State or the Northern Territory as defined in the Companies (Application of Laws) Act of that State or the Northern Territory and the regulations applying under that Code;

"product" includes product, service, process or technique;

"recoverable amount", in relation to an asset, means the net amount that is expected to be recovered –
(a) from the total cash inflows less the relevant cash outflows arising from its continued use and through its subsequent disposal; or
(b) through its sale;

"research and development" means systematic investigation or experimentation that –
(a) involves innovation or technical risk; and
(b) is carried on for the purpose of –
(i) acquiring new knowledge; or
(ii) developing a new product or bringing about a significant improvement to an existing product.

For endorsed comment see:

Paragraphs (i) - (iv): Activities to be identified as research and development activities

Paragraphs (vii) - (ix): Research

Paragraphs (x) - (xi): Development

Relevant provisions of the Code include:

Sub-section 266E(1): "Unless the contrary intention appears in the accounting standard, an expression used in an approved accounting standard has the same meaning as the expression has in this Part [Part VI]".

Sub-section 5 (1): definition of "financial year".

Sub-section 266 (1): definitions of "accounts" and "group accounts".

Elements of costs to be included in research and development

.20 The costs to be included in the amount at which research and development costs are stated shall comprise-
(a) the cost of materials and services consumed in research and development activities;
(b) the salaries, wages and other related costs of personnel, to the extent that they are engaged in research and development activities;
(c) the depreciation of equipment and facilities to the extent that they are used for research and development activities;
(d) the amortisation of other assets, such as patents and licences, to the extent that they are related to research and development activities;
(e) costs incurred for the company or group by other entities on research and development activities, and charged to the company or group; and
(f) other costs that can be attributed to research and development activities and identified with specific projects.

For endorsed comment see:

Paragraphs (v)-(vi): Elements of costs to be identified with research and development activities

Accounting treatment of research and development costs

.30 Research and development costs shall be charged to the profit and loss account as incurred, except to the extent that they meet the criterion for deferral specified in clause .31.

.31 Costs incurred during the financial year on a research and development project shall be deferred to future financial years to the extent that such costs, together with unamortised deferred costs in relation to that project, are expected beyond any reasonable doubt to be recoverable.

For endorsed comment on clauses .30 and .31 see:

Paragraphs (vii)-(ix): Research

Paragraph (x)-(xi): Development

.32 Deferred research and development costs shall be amortised over future financial years to match such costs with related benefits, commencing with the commercial production of the product.

For endorsed comment see:

Paragraph (xii): Amortisation of deferred research and development costs

.33 The unamortised deferred research and development costs in respect of each research and development project shall be reviewed regularly and at each balance date and, to the extent that they exceed the recoverable amount, they shall be charged to the profit and loss account for the financial year.

Accounting treatment of government or other grants received in relation to costs incurred in research and development

.40 Where a grant is received or receivable in relation to research and development costs which have been deferred, the grant shall be deducted from the carrying amount.

.41 Where a grant is received or receivable in relation to research and development costs which have been charged to the profit and loss account during this or a prior financial year, the grant shall be credited to the profit and loss account.

For endorsed comment on clauses .40 and .41 see:

Paragraph (xiii): Accounting treatment of government or other grants received in relation to costs incurred in research and development.

Research and development costs previously charged to the profit and loss account

.50 Research and development costs which did not previously meet the criterion for deferral specified in clause .31 and were charged to the profit and loss account shall not be written back in the light of subsequent events.

Disclosure of research and development information

.60 The accounts and group accounts shall disclose if material -
(a) the amount of research and development costs charged to the profit and loss account during the financial year before crediting any related grants;
(b) the amount of research and development costs incurred during the financial year and deferred to future financial years before crediting any related grants;
(c) the amount of deferred research and development costs at the end of the financial year, with accumulated amortisation charges being shown separately as a deduction therefrom; and
(d) the basis for amortising any deferred research and development costs.

COMMENTARY

Activities to be identified as research and development

(i) *This accounting standard provides a broad definition of research and development to assist in the classification of research and development activities. It should be noted that research and development includes research work in the social sciences and humanities as well as the physical sciences. The basic principle to apply is that if the plan or design of the product (which is defined to include product, service, process or technique) is substantially set, subsequent activities are likely to be in the nature of production or pre-production activities.*

(a) research aimed at discovery of new knowledge;
(b) searching for applications of new research findings or other knowledge;
(c) formulation and design of possible new or significantly improved product alternatives;
(d) testing in search of new or significantly improved product alternatives; and
(e) evaluation of new or significantly improved product alternatives.

(iii) *The following are examples of activities that typically are included in research and development, where they are carried on for a purpose directly related to research and development activities specified in (ii)-*
(a) design, construction, and testing of pre-production prototypes and models;
(b) design of tools, jigs, moulds and dies;
(c) design, construction, and operation of a pilot plant that is not of a scale economically feasible for commercial production; and,
(d) "feedback research and development" directed at problem solving occurring beyond the research and development phase, for example, solving technical problems arising during initial test production runs.

(iv) *The following are examples of activities that typically are excluded from research and development-*
(a) standard engineering follow-through (in an early phase of commercial production) not in the nature of activities described in sub-paragraph (iii)(d);
(b) quality control during commercial production, including routine testing of products;
(c) "trouble-shooting" in connection with break-downs during commercial production;
(d) routine, on-going efforts to refine, enrich or otherwise improve upon the qualities of an existing product, for example, the making of cosmetic modifications;
(e) adaptation of an existing capability to a particular requirement or customer's need as part of a continuing commercial activity;
(f) seasonal or other periodic design changes to existing products;
(g) routine design of tools, jigs, moulds, and dies;
(h) activities, including design and construction engineering, related to the construction, relocation, rearrangement, or start-up of facilities or equipment (including trial and production runs) other than facilities or equipment whose sole use is for a particular research and development project;
(i) routine data collection, except where such activities are part of the research and development process;
(j) preparing for teaching; and
(k) routine or promotional market research, market testing or market development, or sales promotion (including consumer surveys).

Elements of costs to be identified with research and development activities

(v) *The cost of materials and services consumed in research and development activities, and the salaries, wages and other related costs of personnel, to the extent that they are engaged in research and development activities, are included*

as research and development costs. In addition, those other costs that can be attributed to research and development activities and identified with specific projects are included. Donations made to other entities such as research institutes are not research and development costs.

(vi) *The costs of the service potential of assets consumed in research and development activities are included as research and development costs. This includes the depreciation of equipment and facilities to the extent that they are used for research and development activities, and the amortisation of patents and licences to the extent that they are related to research and development activities.*

Research

(vii) *Research activities can be segregated into two types – basic research and applied research.*

(viii) *Basic research can be broadly defined as original investigation directed primarily towards the advancement of knowledge. It is undertaken without a specific practical aim or application and, consequently, there rarely exists any relationship between costs incurred on these activities and resulting future benefits. The costs of basic research would normally be charged to the profit and loss account when incurred.*

(ix) *Applied research can be broadly defined as original investigation directed primarily towards solving recognised practical problems. Unlike basic research it is undertaken with a specific practical aim or application. Normally, at the time costs are incurred on applied research activities, any future benefits are too uncertain to warrant deferral of the costs. Thus, the costs of applied research activities would normally be charged to the profit and loss account when incurred. However, because applied research activities are undertaken with specific practical objectives they may, on rare occasions, be associated with identifiable projects and a discernible relationship may exist between these projects and probable future benefits from a successfully marketed product or service or a successful process. In these cases, if the costs of applied research activities meet the test outlined in clause .31 they are deferred and amortised over future financial years.*

Development

(x) *Development activities are undertaken with specific commercial objectives and involve the translation of research findings and other scientific knowledge into plans or designs for new products or for significant improvements to existing products. These activities can be associated with identifiable projects and there may be a reasonable probability of future benefits, whether in the form of increased revenues or reduced costs, arising from such projects. Thus, development costs will meet the test for deferral more often than will research costs.*

(xi) *The likelihood of future benefits arising from particular development projects will vary, depending on the type of project and the prospects for commercial*

Amortisation of deferred research and development costs

(xii) *The amount of any deferred research and development costs is to be amortised over financial years in order to match such costs with related benefits. Amortisation will commence with the commercial production of the product and the basis of amortisation employed is to be determined by reference to the benefits expected to arise from the sale or use of the product.*

Accounting treatment of government or other grants received in relation to costs incurred in research and development

(xiii) *Where government or other grants are received or receivable by a company or group as reimbursement for costs incurred on research and development activities, the accounting treatment of such grants depends on the accounting treatment of the costs incurred. Where the costs are deferred, the grant is deducted from the carrying amount of the asset. Where the costs have been charged to the profit and loss account the grant is credited to the profit and loss account.*

PROBABILITY EXPRESSION RESEARCH INSTRUMENT

GROUP 6

GENERAL INSTRUCTIONS

The following research instrument is gathering information from experienced auditors about an expression currently used in an Australian accounting standard. The accounting standard has been placed in the appendix should you need to refer to it. The research is concerned with judgements that you make in your working environment and we would like you to provide answers that reflect your judgements in the "real world" environment.

Part A contains one question on the numerical level of probability that you associate with a particular probability expression.

Part B contains two real (though simplified) cases and, for each case, you are asked to make three judgements. Even if you feel that there is not enough information please endeavour to work with the information available to you.

Part C contains one question dealing with your beliefs about the meaning of a particular probability expression.

Finally, Part D contains some general questions and some questions concerning biographical details.

You should complete the questionnaire without consulting your peers but please speak with the person coordinating this research if you have any queries. Once you have answered a question move on to the next question and do not go back and change any previous answers.

We greatly appreciate your participation in this research and stress that there are no **"trick" questions** and **no right or wrong answers** to the questions being asked.

PART A

"AASB 1022: Accounting for the Extractive Industries" clauses .11 and .12 provide guidance on how to account for exploration, evaluation and development costs stating that the costs may be capitalised and recognised as an asset on the balance sheet provided that the rights to tenure of the area of interest are current and such costs are expected to be recouped through successful development and exploitation of the area.

What is the minimum level of numerical probability (between 0 – 100% inclusive) that you believe to be equal to the word "expected"?

"Expected" means at least - _____%

PART B

CASE 1

Quadstrad Ltd is a publicly listed company incorporated in 1956. Its principal activities are real estate investment and the mining of calamite. During the 1992 and 1993 financial year Quadstrad Ltd incurred material costs on exploration and evaluation of an area which it has leased until the year 2000. The evaluation of the area concluded that it contained commercially viable reserves of calamite. Quadstrad Ltd has capitalised all the exploration and evaluation costs incurred to date which appear as an asset in the balance sheet of the draft 1994 financial statements. However, a recent court case concerned with Aboriginal land titles throughout Australia and its territories (generally referred to as the "Mabo" case) raised concerns about the lease on the area and whether Quadstrad Ltd could actually develop the area and extract the calamite. The predictions for future economic, industrial and legislative conditions in Australia are the same as those that you are currently applying in your working environment.

REQUIRED

Assume that you were the auditor for Quadstrad Ltd and you are assessing whether the exploration and evaluation costs associated with the calamite area of interest should be carried forward or written off as an expense in the year ended 30 June 1994.

1. Given the facts of the case how confident are you that the company will recover the exploration and evaluation costs?

   Please express your answer in terms of a numerical probability between 0 – 100% (inclusive). _____%

2. What is the minimum level of numerical probability (between 0 -100% inclusive) that you believe to be equal to the word "expected"?

   "Expected" means at least - _____%

3. Would you continue to recognise the exploration and evaluation costs capitalised to date as an asset in the body of the balance sheet in the 1994 financial statements?

   Circle your response: YES / NO

CASE 2

Palcec Ltd is a publicly listed company incorporated in 1930 with its major operations being in the mining industry. In the 1990 financial year Palcec commenced exploration and evaluation of an area of interest (which it owned) looking for a mineral called "M3". At 30 June 1993 the area had been assessed as having large deposits of M3 with development of the area to commence in January 1994. At 30 November 1993 Palcec Ltd became aware of an ongoing court case in the United States at which a respected expert on M3 had indicated that M3's qualities may be grossly overestimated. If the expert is correct the mineral would be virtually unsaleable. Another authority on M3 has recently reported findings which conflict with those of the expert appearing in the US court case. Because of the uncertainty the company has deferred development of the area until the marketability of M3 can be determined. As at the current financial year ended 30 June 1994 all costs on exploration and evaluation of the area have been capitalised and recognised as an asset in the balance sheet. The predictions for future economic, industrial and legislative conditions in Australia are the same as those that you are currently applying in your working environment.

REQUIRED

Assume you are the auditor for Palcec Ltd and you are assessing whether the exploration and evaluation costs associated with the M3 area of interest should be carried forward or written off as an expense in the year ended 30 June 1994.

1. Given the facts of the case, how confident are you that the company will recover the exploration and evaluation costs?

   Please express your answer in terms of a numerical probability between 0 – 100% (inclusive). _____%

2. What is the minimum level of numerical probability (between 0 – 100% inclusive) that you believe to be equal to the word "expected"?

   "Expected" means at least - _____%

3. Would you continue to recognise the exploration and evaluation costs capitalised to date as an asset in the body of the balance sheet in the 1994 financial statements?

   Circle your response: YES / NO

PART C

In this part of the questionnaire we are interested in your opinions on a particular probability expression which is used in an Australian accounting standard. Though you may feel it is difficult to generalise, we would like you to express your opinions as accurately as you can. As with your responses in Part A and B **there are no right or wrong answers**.

We want you to describe your opinions about a particular probability expression using certain scales ("adjectival pairings" e.g. CONTROLLABLE : UNCONTROLLABLE or GOOD : BAD). The following instructions are to be used in completing the questionnaire:

1. Please indicate your response to each scale by placing a cross (X) in the space that best describes your response.

   For example, if you feel that the probability expression is a concept that tends to be something which is controllable indicate this as below:

   CONTROLLABLE : X : _ : _ : _ : _ : _ : UNCONTROLLABLE

   If on the other hand you feel that the probability expression is a concept that tends to be uncontrollable, indicate this as below:

   CONTROLLABLE : _ : _ : _ : _ : _ : X : UNCONTROLLABLE

   If you think the scale (adjectival pairing) is irrelevant to describing the probability expression then place a cross (X) on the mid-point of the scale as indicated below:

   CONTROLLABLE : _ : _ : _ : X : _ : _ : _ : UNCONTROLLABLE

2. If the probability expression has no meaning to you (i.e. you have no idea what the phrase means) then **do not** place a cross on **any** of the scales. Instead place a cross (X) in the box labelled " NO MEANING".

Turn the page to complete this part of the questionnaire.

"AASB 1022 Accounting For Extractive Industries" clauses .11 and .12 indicate that it must be "expected" that exploration, evaluation and development costs will be recovered through commercial exploitation of an area of interest, before these costs can be recognised as an asset in the body of the balance sheet. With respect to recognising exploration, evaluation and development costs as an asset on the balance sheet the phrase "expected" tends to be:

OBJECTIVE	:_:_:_:_:_:_:	SUBJECTIVE
TANGIBLE	:_:_:_:_:_:_:	INTANGIBLE
STRONG	:_:_:_:_:_:_:	WEAK
INDIRECT	:_:_:_:_:_:_:	DIRECT
VARIABLE	:_:_:_:_:_:_:	CONSTANT
SAFE	:_:_:_:_:_:_:	RISK
COMPLETE	:_:_:_:_:_:_:	INCOMPLETE
DISCRETIONARY	:_:_:_:_:_:_:	REQUIRED
REAL	:_:_:_:_:_:_:	IMAGINARY
BENEFICIAL	:_:_:_:_:_:_:	ADVERSE
TEMPORARY	:_:_:_:_:_:_:	PERMANENT
CONTROLLABLE	:_:_:_:_:_:_:	UNCONTROLLABLE
UNEXPECTED	:_:_:_:_:_:_:	EXPECTED
PASSIVE	:_:_:_:_:_:_:	ACTIVE
STATIC	:_:_:_:_:_:_:	DYNAMIC
LONG TERM	:_:_:_:_:_:_:	SHORT TERM
INFLEXIBLE	:_:_:_:_:_:_:	FLEXIBLE
EXACT	:_:_:_:_:_:_:	ESTIMATED
BAD	:_:_:_:_:_:_:	GOOD
MEASURABLE	:_:_:_:_:_:_:	UNMEASURABLE
NECESSARY	:_:_:_:_:_:_:	UNNECESSARY
PLANNED	:_:_:_:_:_:_:	UNPLANNED

☐ The concept has NO MEANING for me

PART D

1. Did you understand the question that was asked in Part A of this questionnaire?

   Circle the correct response: YES / NO

2. If your answer to question 1 was "NO" please explain below. If your answer was "YES" to question 1 proceed to question 3.

   _____

   _____

   _____

   _____

   _____

3. Did you understand all the questions asked in Part B of this questionnaire?

   Circle the correct response: YES / NO

4. If your answer to question 3 was "NO" please explain below. If your answer was "YES" to question 3 proceed to question 5.

   _____

   _____

   _____

   _____

   _____

5. In Part B of this questionnaire you were asked to make judgements in the context of two real though simplified cases. Due to the nature of this research the cases had to be brief and simplified. For example, information about your own time and budget constraints, cashflow forecasts and client budgets, first hand knowledge of the company and other issues that you would normally face in your daily working environment could not be provided. The following question is not asking about these matters or about the quality of the information you were provided with. The following question is asking for your opinion about the three decisions that you were asked to make in each of the cases. When answering the question place a cross (X) in the space which best reflects your answer.

Would you agree or disagree with the following statement:

Although the information in the cases was brief and simplified, the actual decisions that you were asked to make in Part B are similar to the decisions that you make in your working environment.

AGREE I : : : : : : I DISAGREE

6. Did you understand the question asked in Part C of this questionnaire?

Circle the correct response: YES / NO

7. If your answer to question 6 was "NO" please explain below. If your answer was "YES" to question 6 proceed to question 8.

_____

_____

_____

_____

_____

8. What is the minimum numerical level of probability (with respect to the realisation of future economic benefits) that you think should be reached before you would recognise an asset on the balance sheet?

The asset recognition probability should be at least : _____%

9. What is the minimum numerical level of probability (with respect to incurring future economic losses) that you think should be reached before you would recognise a liability on the balance sheet?

The liability recognition probability should be at least: _____%

10. Would your answer to questions 8 and/or 9 change depending upon the facts of the case?

Circle the correct response: YES / NO

Briefly explain:

_____

_____

_____

_____

_____

11. How many years have you worked as an accountant/auditor?: _____yrs.

12. Is there anything that you wish to comment on in regard to this questionnaire?:

_____

_____

_____

_____

_____

_____

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_____

_____

_____

Many thanks – your participation is greatly appreciated.

APPENDIX

AASB 1022: Accounting for the Extractive Industries

Introductory Comments by the Technical Editors (I. L-S: Amended CWP 1991)

The following introductory note has been prepared by the Technical Editors and does NOT form part of the approved accounting standard.

Approved accounting standard ASRB 1022: Accounting for the Extractive Industries was approved on 30 October 1989 and is effective for financial years ending on or after 31 December 1989. Unlike earlier ASRB standards this standard has been approved on an interim basis only and will be subject to a further detailed review by the ASRB. The standard was approved following the issue of ASRB Release 416: Consideration by the Accounting Standards Review Board of Accounting Standards AAS 1, 2, 3, 4 and 7 for Interim Approval and Certain Proposed Amendments to such Standards in January 1989. The corresponding AAS standard, AAS 7, was reissued in November 1989 incorporating the changes in ASRB 1022.

Although the power of the ASRB to issue standards under section 266B of the *Companies Code* is limited to companies, other entities may be required by other laws to comply with standards approved by the ASRB under the *Companies Code*. The obligation of members of the Australian Society of Certified Practising Accountants and the Institute of Chartered Accountants in Australia to comply with AAS standards, when there is a corresponding ASRB standard, is explained in the 1990 reissue APS 1 "Conformity with Statements of Accounting Concepts and Accounting Standards", as being limited to reporting entities *other than* those "required by legislation, ministerial directive or other government authority to comply with applicable Approved Accounting Standards" [paragraphs 6 and 9]. This policy change was announced on 30 May 1989 and was immediately effective.

In July 1991, the Australian Accounting Standards Board issued Accounting Standard AASB 1025: Application of the Reporting Entity Concept and Other Amendments. Notice of the approval of this Standard was published in the Commonwealth of Australia Gazette on 23 August 1991. The Standard applies to financial years ending on or after 30 June 1992. Subsection 285(3) of the Corporations Law allows directors of a company to elect in writing that a Standard made under section 32 of the Corporations Act 1989 which has not yet come into operation (i.e., does not apply to the particular financial year, apart from sub-section (4)) shall apply to the financial year.

The principal objective of AASB 1025 is to put into place in all ASRB Standards the AASB's policies concerning the reporting entity concept, the application of materiality, interpretation provisions and transitional provisions. In respect of ASRB 1022, amendments are made to Citation (1022.00), Application (1022.02), Interpretation (1022.04), Materiality (1022.05), Definitions (1022.06) and Transitional (1022.80) clauses.

End of Introductory Comments by the Technical Editors

Citation

.00 This standard, with the exception of the words shown in italics, may be cited as Approved Accounting Standard ASRB 1022: Accounting for the Extractive Industries.

Endorsed explanatory material

.01 The words shown in italics do not form part of the standard. They are published with the standard as an aid to its interpretation.

Explanatory material is set out in two ways:
(a) immediately after certain of the requirements; and
(b) as a commentary at the end of the standard.

Application

.02 This standard:
(a) applies to each company in relation to its first financial period that ends on or after 31 December 1989, and in relation to subsequent financial periods of the company; and
(b) does not apply to resources of a regenerative nature.

Notice of the approval of this standard was published in the Commonwealth of

In all cases, compliance with a requirement of a standard is subject to any relevant provision of the Code.

Statement of purpose

.03 The purpose of this standard is:
(a) to specify the accounting treatments for particular transactions and events relating to extractive industry operations; and
(b) to require disclosure, in the accounts and group accounts, of information relating to extractive industry operations;
so that users entitled to rely on the accounts or group accounts are provided with information about the extractive industry operations of the company or group of companies which is necessary for an understanding of the financial position, performance, and financing and investing of the company or group of companies.

Interpretation

.04 Where there is a conflict between the interpretation of a provision of this standard and the statement of purpose, the statement of purpose shall prevail.

Application of materiality: Extractive Industries

.05 Information about extractive industry operations is material if its omission, non-disclosure or mis-statement is likely to affect economic decisions or other evaluations made by users entitled to rely on the accounts or group accounts.

Definitions

.06 In this standard unless the contrary intention appears:

"**exploration**" means the search for a mineral deposit or an oil or natural gas field which appears capable of commercial exploitation by an extractive operation and includes topographical, geological, geochemical and geophysical studies and exploratory drilling;

"**evaluation**" means the determination of the technical feasibility and commercial viability of a particular prospect and includes determination of the volume and grade of the deposit or field, examination and testing of extraction methods and metallurgical or treatment processes, surveys of transportation and infrastructure requirements, and market and finance studies;

"**development**" means the establishment of access to the deposit or field and other preparation for commercial production and includes shafts, underground drives and permanent excavations, roads and tunnels, advance removal of overburden and waste rock, and drilling of oil or natural gas wells;

"**construction**" means the establishment and commissioning of facilities including infrastructure, buildings, machinery and equipment for the extraction, treatment and transportation of product from the deposit or field;

"**production**" means the day-to-day activities directed to obtaining saleable product from the deposit or field on a commercial scale and includes extraction and any processing prior to sale;

Exploration, evaluation, development, construction and production are terms used to describe the different phases of operations and, in practice, more than one phase can occur at the same time in the same area of interest.

"**area of interest**" means an individual geological area which is considered to constitute a favourable environment for the presence of a mineral deposit or an oil or natural gas field, or has been proved to contain such a deposit or field;

"**brought to account**" means recognised in the accounts or group accounts, otherwise than by way of note;

"Code" means, where this standard applies in –
(a) the Australian Capital Territory – the Companies Act 1981, and the regulations made under that Act; or
(b) a State or the Northern Territory – the Companies Code of a State or the Northern Territory, as defined in the Companies (Application of Laws) Act of that State or the Northern Territory and the regulations applying under that Code;

"**economically recoverable reserves**" means the estimated quantity of product in an area of interest, which can be expected to be profitably extracted, processed and sold under current and foreseeable economic conditions;

"**financial period**" means, in relation to –
(a) accounts of a corporation referred to in paragraph 158(5)(b) of the Code or, where that corporation is a holding company, the group accounts prepared in accordance with that paragraph – the period of six months after the end of the financial year of that corporation;
(b) a set of consolidated accounts of a borrowing corporation and each guarantor corporation referred to in paragraph 158(6)(b) of the Code – the period of six months after the end of the financial year of the borrowing corporation; or
(c) the accounts or group accounts of any other corporation – the financial year of the corporation; and

"**life of the area of interest**" means the period of time over which the economically recoverable reserves in the area of interest can be expected to be depleted, or the period of time for which, under the terms of a lease or permit, extractive operations in the area of interest may continue, whichever is the shorter.

Relevant provisions of the Code include:

Sub-section 266E(1): "Unless the contrary intention appears in the accounting standard, an expression used in an approved accounting standard has the same meaning as the expression has in this Part [Part VI]".

Sub-section 5(1): definition of "financial year".

Sub-section 266(1): definition of "accounts", "group accounts" and "group of companies".

Costs arising from exploration, evaluation, development and construction: carry forward or write off

.10 Each area of interest shall be considered separately when deciding whether, and to what extent, costs arising from exploration, evaluation and development are carried forward or written off.

.11 Costs arising from exploration and evaluation related to an area of interest shall be written off as incurred, except that they may be carried forward provided that rights to tenure of the area of interest are current and provided further that at least one of the following conditions is met:
(a) such costs are expected to be recouped through successful development and exploitation of the area of interest, or alternatively, by its sale; and
(b) exploration and evaluation activities in the area of interest have not at balance date reached a stage which permits a reasonable assessment of the existence or otherwise of economically recoverable reserves, and active and significant operations in, or in relation to, the area of interest are continuing.

.12 Costs arising from development related to an area of interest shall be carried forward to the extent that such costs, together with any costs arising from exploration and evaluation carried forward in respect of the area of interest, are expected to be recouped through successful exploitation of the area of interest, or alternatively, by its sale.

.13 Construction costs which represent the costs of facilities in the nature of depreciable assets shall be accounted for in accordance with Approved Accounting Standard ASRB 1021: Depreciation of Non-Current Assets. Construction costs which are not represented by depreciable assets shall be accounted for in the same way as development costs.

.14 When development continues in an area of interest after the commencement of production in order to gain additional access to, or additional information about the extent of, the economically recoverable reserves, the respective development costs shall be carried forward, subject to clause .30.

.15 Costs carried forward in respect of an area of interest subsequently abandoned shall be written off in the financial period in which the decision to abandon is made.

For endorsed comment see:

Paragraphs (i) to (iv): Costs arising from exploration, evaluation, development and construction: carry forward or write off

Accumulation of costs and revenues arising from exploration, evaluation, development and construction

.20 Costs, both direct and indirect, arising from exploration, evaluation and development activities and specifically related to an area of interest, shall be allocated to that area of interest.

.21 General and administrative costs shall be allocated to particular areas of interest only to the extent that they can be related directly to operational activities in those areas. In all other cases, they shall be written off as expenses as they are incurred.

.22 Amounts (including subsidies) received during the exploration, evaluation, development or construction phases which are in the nature of reimbursement or recoupment of previously incurred costs shall be offset against such costs.

.23 Costs shall continue to be accumulated in respect of an area of interest notwithstanding that its size may contract as operations progress from exploration through evaluation, development, construction and production. When two or more separate and distinct development, construction and production operations arise within the one area of interest, exploration and evaluation costs allocated to the area shall be apportioned equitably between such operations, and each operation shall be accounted for separately from then on.

For endorsed comment see:

Paragraphs (v) to (ix): Accumulation of costs and revenues arising from exploration, evaluation, development and construction

Amortisation of exploration, evaluation, development and construction costs carried forward

.30 Exploration, evaluation and development costs carried forward shall be amortised over the life of the area of interest to which they relate. Amortisation charges shall be determined on a production output basis, unless, in the particular circumstances, a time basis is more appropriate. The basis of amortisation adopted shall be applied consistently from financial period to financial period. The rate of amortisation shall not lag behind the rate of depletion of the economically recoverable reserves in the area of interest.

.31 In calculating amortisation charges, economically recoverable reserves and any development costs still to be incurred shall be reassessed annually.

.32 Amortisation charges shall be treated as forming part of the cost of production.

.33 To the extent that costs carried forward have been fully amortised and relate to facilities physically abandoned or of no further use, or to overburden and waste rock removal in areas worked out, those costs and the related accumulated amortisation shall be written off the appropriate asset and accumulated amortisation accounts.

For endorsed comment see:

Paragraphs (x) to (xiv): Amortisation of exploration, evaluation, development and construction costs carried forward

Restoration costs

.40 Where there is an expectation that an area of interest will be restored:
(a) the cost of restoration work necessitated by exploration, evaluation or development activities prior to commencement of production shall be

provided for at the time of such activities and shall form part of the cost of the respective phase(s) of operations
(b) the cost of restoration work necessitated by any activities after the commencement of production shall be provided for during production and shall be treated as a cost of production; and
(c) in determining the amount to be provided in any one financial period, the balance of the provision for restoration costs, after charging against it actual costs incurred to date, shall be reassessed in the light of expected further costs.

For endorsed comment see:

Paragraph (xv): Restoration costs

Inventories

.50 Inventories shall be brought to account at the earliest stage at which materials representing, or expected to be converted by further processing to, saleable product can be measured with reliability and the quantities of such materials can be determined by physical measurement or reliable estimate.

For endorsed comment see:

Paragraphs (xvi) and (xvii): Inventories

Sales revenue

.60 Sales revenue shall not be brought to account until the product is in the form in which it is to be sold (that is, no further processing needs to be carried out by, or on behalf of, the vendor) and:
(a) the property in the product has passed to the purchaser; or
(b) without such passing of property, the product has moved finally from the physical control of the vendor pursuant to an enforceable sales contract; it can be established that the product is for the purchaser's account pursuant to the sales contract; and the vendor, in the event of loss or damage, would have a claim for the sale proceeds against a third party such as a carrier or insurer.

.61 Where it is probable that the proceeds from the sale of product will vary because the determination of final quantities and/or sales prices is dependent upon assays or other tests after delivery, such proceeds shall be brought to account using the most reliable available estimates of quantities and sales prices.

.62 Proceeds from the sale of product obtained from activities in the exploration, evaluation or development phases shall be accounted for in the same manner as sales of product obtained during the production phase. The estimated cost of producing the quantities concerned shall be deducted from the accumulated costs of such activities and be treated as the cost of product sold.

Disclosures in the accounts and group accounts

.70 The following shall, if material, be separately disclosed in the profit and loss account by way of note or otherwise:
(a) the aggregate amount of exploration, evaluation or development costs incurred and written off in the financial period other than by way of amortisation;
(b) the amount charged in the financial period for amortisation of exploration, evaluation or development costs carried forward, irrespective of how such costs are classified or described in the balance sheet; and
(c) government royalties paid and payable on sales or production for the financial period.

.71 The following shall, if material, be separately disclosed in the balance sheet by way of note or otherwise:
(a) costs carried forward in respect of areas of interest still in the exploration or evaluation phases, with an explanation that ultimate recoupment of such costs is dependent on successful development and commercial exploitation, or alternatively, sale of the respective areas;
(b) costs carried forward in respect of areas of interest in the development phase in which production has not yet commenced, with an explanation that amortisation is not being charged pending the commencement of production; and
(c) costs carried forward in respect of areas of interest in which production has commenced, with accumulated amortisation charges being shown separately as a deduction.

.72 Government subsidies (received and receivable) brought to account in the financial period shall, if material, be separately disclosed in the accounts and group accounts with details, where applicable, of the circumstances in which any such subsidies may become repayable.

Transitional provision

.80 Where the accounting treatments required by this standard are not already being applied at the date this standard is first applied they shall be applied retrospectively. Where this gives rise to initial adjustments, the net amount of these adjustments shall, in accordance with clause .11 of Approved Accounting Standard ASRB 1018: Profit and Loss Accounts, be adjusted against retained profits or accumulated losses at the beginning of the financial period in which this standard is first applied.

COMMENTARY

Costs arising from exploration, evaluation, development and construction: carry forward or write off

(i) In the extractive industries, economically recoverable reserves are the ultimate source of revenue. Costs incurred in the exploration phase are directed towards the discovery of such reserves, while costs in the evaluation phase are directed towards proving the reserves. Costs incurred during the development and construction phases have the purpose of preparing for effective exploitation of the reserves. Each unit of product sold needs to bear its proportionate share of exploration, evaluation, development and construction costs. To this end, it may be necessary to carry forward exploration, evaluation, development and construction costs for subsequent amortisation or depreciation during the production phase. On the other hand, if exploration and evaluation are unsuccessful, this results in a loss which cannot be reversed. The loss needs to be recognised in the accounts and group accounts, no matter whether the funds

for those activities were originally provided out of subscribed capital (as, for example, with a newly formed exploration company), or out of earnings (as, for example, with a company engaged in production which at the same time continues further exploration and evaluation).

(ii) *The method required to be used by this standard for determining whether costs arising from exploration, evaluation, development and construction are carried forward or written off is known as the "area of interest method". It permits, subject to certain constraints, the carrying forward of exploration and evaluation costs, so as to achieve as far as possible a proper matching of revenue and related expenses. In most cases, the area of interest will comprise a single mine or deposit or a separate oil or gas field. For any one area of interest, the exploration and evaluation costs are carried forward so long as a reasonable probability of success in that area exists. If the search is unsuccessful or evaluation produces a negative result, the costs associated with the area are written off.*

(iii) *In determining whether active and significant operations in, or in relation to, the area of interest are continuing, a temporary interruption of operations because of seasonal or climatic factors or of governmental intervention is not viewed as a cessation of operations.*

(iv) *During exploration and, to some degree also, during evaluation, an area may be difficult to delimit. In the development, construction and production phases, the area will have been delimited as the mineral deposit or the oil or natural gas field constituting the economically recoverable reserves.*

Accumulation of costs and revenues arising from exploration, evaluation, development and construction

(v) *All direct and indirect costs incurred during the exploration, evaluation, development and construction phases, and specifically identifiable with an area of interest, are allocated to that area of interest. In making this allocation, no distinction is drawn between costs incurred within the company or group of companies and the cost of services performed by outside contractors or consultants on behalf of the company or group of companies. Indirect costs would include, inter alia, charges for depreciation of equipment used in exploration, evaluation, development and construction activities.*

(vi) *The costs of acquiring leases or other rights of tenure in the area of interest are classified as exploration, evaluation or development costs depending on the stage in which such leases or other rights are acquired.*

(vii) *General and administrative costs related only indirectly to operational activities (such as directors' fees, secretarial and share registry expenses, and salaries and other expenses of general management), are treated as expenses of the financial period in which they are incurred. Accordingly, they are not apportioned to areas of interest.*

(viii) *Consideration needs to be given to whether revenue received during the exploration, evaluation, development and construction phases is brought to account immediately in the profit and loss account or whether it is in the first place to be deducted from the respective exploration, evaluation, development and construction costs. In this context it is necessary to distinguish between sales revenue and revenue which, directly or indirectly, represents a recoupment of exploration, evaluation, development and construction costs. In the case of*

the latter, a deduction from the respective exploration, evaluation, development and construction costs clearly is the appropriate accounting treatment.

(ix) *It is common for an area of interest to contract in size progressively, as exploration and evaluation lead towards the identification of a mineral deposit or an oil or natural gas field, which may prove to contain economically recoverable reserves. In consequence, the question arises whether all exploration, evaluation, development and construction costs incurred in relation to the initial area of interest ought to be accumulated against that area without regard for the contraction of its size, or whether such costs ought to be apportioned between those parts of the area which continue to be the subject of activities, and those parts which have been abandoned. For the purposes of this standard the first alternative is required.*

Amortisation of exploration, evaluation, development and construction costs carried forward

(x) *Exploration, evaluation and development costs carried forward need to be charged, by appropriate amortisation, against revenue earned during the production phase. The costs of facilities established during the construction phase which are in the nature of depreciable assets, will be written off by means of depreciation charges made over the useful lives of the assets concerned. It follows from Approved Accounting Standard ASRB 1021: Depreciation of Non-Current Assets that the useful lives are not greater than the expected life of the area of interest for which they are acquired except where any such assets may be transferred to some other area of interest or may have further use not necessarily connected with any particular area of interest.*

(xi) *Amortisation based on production output for costs carried forward in respect of an area of interest is determined by apportioning such costs in the ratio of the production output for the financial period to the total of this output and the economically recoverable reserves at the end of the financial period.*

(xii) *Amortisation based on time for costs carried forward in respect of an area of interest is related to the expiration of time permitted or contemplated for extraction of the economically recoverable reserves. This basis is suitable where production is limited by time, as it would be under a fixed-period tenure of the area of interest. It may also be appropriate, where reserves are so large as to approach an infinite life, to adopt some arbitrary time limit for the purposes of amortisation. However, in most cases, use of the production output basis is most appropriate, because it takes into account variations in the production rate.*

(xiii) *Whichever basis of amortisation is used, it is necessary to review regularly the latest estimate of economically recoverable reserves. In determining such reserves, due regard needs to be given to:*

- *(a)* *security of tenure of the area of interest (including special conditions attaching to leases or permits);*
- *(b)* *the possibility that technological developments or discoveries may make the product obsolete or uneconomical at some future time;*
- *(c)* *changes in technology, market or economic conditions affecting either sales prices or production costs, with a consequent impact on cut-off grades; and*
- *(d)* *likely future changes in factors such as recovery rate, dilution rate, and production efficiencies during extraction, processing and transportation of products.*

Because some of the factors set out above may act as future constraints, it will often be advisable to put an arbitrary limit on the economically recoverable reserves used in amortisation calculations.

(xiv) *The amount of development costs on which amortisation calculations are based, may need to include the estimated future development costs expected to be incurred in respect of the area of interest to which the development costs relate.*

Restoration costs

(xv) *It is frequently a condition of a permit to engage in extractive operations that the area covered by the permit be restored after the cessation of operations. In any case, it may be policy of the company involved in the operations to carry out such restoration even if there is no legal obligation to do so. Restoration costs that it is expected will be incurred are provided for as part of the cost of the exploration, evaluation, development, construction or production phases that give rise to the need for restoration.*

Inventories

(xvi) *In the production phase of extractive operations materials representing or expected to be converted by further processing to saleable product can accumulate at various stages, and it must be decided if and when such materials ought to be brought to account as inventories. For example, in mining, broken ore can collect at the point where ore-breaking first occurs (underground or in the open-cut pit) and on the surface prior to further processing or dispatch; partly-processed product exists during processing (crushing, screening, concentration, beneficiating, smelting or refining); saleable product may exist after processing, but before ultimate sale. Similarly, oil and natural gas may be present in bulk storage at or adjacent to the well-head, and/or in pipelines en route to storage, treatment, or refining facilities.*

(xvii) *Some companies adopt the practice of bringing to account, as inventories, only product in a saleable form. This practice has its origin in difficulties in establishing accurate inventory quantities during the early stages of production. Such difficulties can arise: because not all the physical dimensions are accessible, thus making precise calculation or measurement impossible; from inaccuracies inherent in assay, moisture or specific gravity samples; or in continuous process operations, where quantities in circuit cannot be properly determined.*

PROBABILITY EXPRESSION RESEARCH INSTRUMENT

GROUP 7

GENERAL INSTRUCTIONS

The following research instrument is gathering information from experienced auditors about a number of expressions currently used in Australian accounting standards. The research is concerned with judgements that you make in your working environment and we would like you to provide answers that reflect your judgements in the "real world" environment.

Part A is concerned with your interpretation of the relative levels of probability that are connoted by some probability expressions used in Australian accounting standards. Part B contains some general questions and questions concerning biographical details. The appendix contains copies of accounting standards for reference purposes if needed.

You should complete the questionnaire without consulting your peers but please speak with the person coordinating this research if you have any queries. Once you have answered a question move on to the next question and do not go back and change any previous answers.

We greatly appreciate your participation in this research and stress that there are no "trick" questions and **no right or wrong answers** to the questions being asked.

PART A

There are occasions when you are called upon as an auditor to make a professional judgement about whether to recognise an asset/liability/expense/revenue in the body of the financial statements. In many of these instances Australian accounting standards provide some guidance to assist in the decision. For example, "AASB 1020: Accounting for Income Tax (Tax-Effect Accounting)" indicates that it must be assured beyond any reasonable doubt that the benefits, associated with a future income tax benefit attributable to timing differences, will be realised before it can be recognised in the balance sheet. The judgement in the above example is concerned with the level of probability associated with the probability expression "assured beyond any reasonable doubt". There exist a number of other probability expressions, used in the context of recognising assets/liabilities/revenues/expenses in the financial statements, in Australian accounting standards. For example:

AASB 1009: Accounting for Construction Contracts states that material losses on construction contracts shall be brought to account as soon as they are foreseeable.

AASB 1011: Accounting for Research and Development Costs states that costs incurred on a research and development project may be recognised as an asset in financial statements when such costs are expected beyond any reasonable doubt to be recovered.

AASB 1019: Measurement and Presentation of Inventories in the Context of the Historical Cost System states that if it is not probable that there will be sufficient future revenue to cover the costs of inventory, then irrecoverable costs should be expensed.

AASB 1020: Accounting for Income Tax (Tax-Effect Accounting) states that, for companies with tax losses, any future income tax benefits must be virtually certain of being realised before they can be recognised as an asset in the balance sheet.

AASB 1022: Accounting for The Extractive Industries states that exploration, evaluation and development costs realted to an area of interest shall be carried forward only where they are expected to be recovered through successful exploitation of the area of interest or, alternatively, by its sale.

The following questions looks at how you interpret the probability terms which have been underlined above.

QUESTION 1

In the space alongside each of the expressions below please quantify the minimum numerical level of probability (between 0 - 100% inclusive) that you believe to be equal to each of the expressions in the context of recognising assets/liabilities/expenses/ revenues in the body of the financial statements.

The following is an example of what you are required to do and is not intended as a benchmark:

Example Only

"More than likely" means at least: XX%

"Possible" means at least: YY%

"Might" means at least: YY%

If two or more of the expressions mean the same level of probability (as illustrated in the example) please indicate this by assigning them with the same numerical level of probability.

EXPRESSION	**PROBABILITY %**
"Virtually certain" means at least:	_____
"Probable" means at least:	_____
"Expected beyond any reasonable doubt" means at least:	_____
"Foreseeable" means at least:	_____
"Assured beyond any reasonable doubt" means at least:	_____
"Expected" means at least:	_____

QUESTION 2

The expressions below represent descriptions of certain levels of probability. With respect to their relative levels of probability, rank the expressions below 1 - 6 (in the brackets provided). The number "1" = the expression meaning the highest level of probability (or closest to absolutely certain) through to "6" = the expression meaning the lowest level of probability. If two or more expressions mean the same level of probability to you please indicate this by allocating them with the same number.

EXPRESSION	**RANKING**
"Expected"	( )
"Virtually certain"	( )
"Probable"	( )
"Expected beyond any reasonable doubt"	( )
"Foreseeable"	( )
"Assured beyond any reasonable doubt"	( )

PART B

1. Did you understand the two questions that were asked in Part A of this questionnaire?

   Circle the correct response: YES / NO

2. If your answer to question 1 was "NO" please explain below. If your answer was "YES" to question 1 proceed to question 3.

   _____

   _____

   _____

   _____

   _____

3. In question 1 (Part A) of this questionnaire you were asked to numerically quantify the minimum level of probability that you associate with probability expressions used in the recognition criteria of some Australian accounting standards. Would you ever change your answer to that question (ie would you ever change the minimum numerical level of probability that you associate with each of the probability expressions) because it is dependent upon the facts of each particular case?

   Circle the correct response: YES / NO

   Please explain:

   _____

   _____

   _____

   _____

   _____

   _____

4. What is the minimum numerical level of probability (with respect to incurring future economic losses) that you think should be reached before you would recognise an expense in the profit and loss account?

   The expense recognition probability should be at least: _____%

5. What is the minimum numerical level of probability (with respect to the realisation of future economic benefits) that you think should be reached before you would recognise revenue in the profit and loss account?

   The revenue recognition probability should be at least: _____%

6. How many years have you worked as an auditor?: _____yrs.

7. Is there anything that you wish to comment on in regard to this questionnaire?:

   _____

   _____

   _____

   _____

   _____

Many thanks - your participation is greatly appreciated.

APPENDIX

AASB 1009: Accounting for Construction Contracts

Introductory Comments by the Technical Editors (L L-S: Amended CWP 1991)

The following introductory note has been prepared by the Technical Editors and does NOT form part of the approved accounting standard.

Approved accounting standard ASRB 1009: Accounting for Construction Contracts was approved on 14 November 1986 and is effective for financial years ending on or after 30 June 1987. The standard was approved following the issue of ASRB Release 408 in March 1986. This "exposure draft" did not comply with the procedures outlined in ASRB Release 200: Procedures for the Approval of Accounting Standards, paragraph 4.3, having been released under the "fast-track" system announced in NCSC Media Release 85/63 which was designed to "clear the backlog in standards awaiting approval". The ASRB has expressed the view that this resulted in approval of standards which were not "consistent with the assumptions set out in ASRB Release 100" [ASRB Release 302: Annual Report 1985-1986, paragraph 5.2]. Fast-tracking was abandoned when all standards capable of such treatment had been considered by the Board [ASRB Release 303: Annual Report 1986-1987, paragraph 5.2]. The corresponding AAS standard is AAS 11.

Although the power of the ASRB to issue standards under section 266B of the *Companies Code* is limited to companies, other entities may be required by other laws to comply with standards approved by the ASRB under the *Companies Code*. The obligation of members of the Australian Society of Certified Practising Accountants and the Institute of Chartered Accountants in Australia to comply with AAS standards, when there is a corresponding ASRB standard, is explained in the 1990 reissue APS 1 "Conformity with Statements of Accounting Concepts and Accounting Standards", as being limited to reporting entities *other than* those "required by legislation, ministerial directive or other government authority to comply with applicable Approved Accounting Standards" [paragraphs 6 and 9]. This policy change was announced on 30 May 1989 and was immediately effective.

In July 1991, the Australian Accounting Standards Board issued Accounting Standard AASB 1025: Application of the Reporting Entity Concept and Other Amendments. Notice of the approval of this Standard was published in the Commonwealth of Australia Gazette on 23 August 1991. The Standard applies to financial years ending on or after 30 June 1992. Subsection 285(3) of the Corporations Law allows directors of a company to elect in writing that a Standard made under section 32 of the Corporations Act 1989 which has not yet come into operation (i.e., does not apply to the particular financial year, apart from sub-section (4)) shall apply to the financial year.

The principal objective of AASB 1025 is to put into place in all ASRB Standards the AASB's policies concerning the reporting entity concept, the application of materiality, interpretation provisions and transitional provisions. In respect of ASRB 1009, amendments are made to Citation (1009.00), Application (1009.02), Interpretation (1009.04), Materiality (1009.05), Definitions (1009.06) and Transitional (1009.60) clauses.

End of Introductory Comments by the Technical Editors

Citation

.00 This statement, with the exception of the words shown in italics, may be cited as Approved Accounting Standard ASRB 1009: Accounting for Construction Contracts.

Endorsed explanatory material

.01 The words shown in italics do not form part of the approved standard. They are published with the standard as an aid to its interpretation.

Explanatory material is set out in two ways –
(a) immediately after certain of the requirements; and
(b) as a commentary at the end of the standard.

Application

.02 This approved accounting standard applies to –
(a) the accounting by a contractor for all construction contracts; and

(b) in relation to the first financial year of a company that ends after the expiration of seven calendar months and 15 days from the day on which this notice is published in the Gazette and in relation to subsequent financial years of the company.

This standard was published in the Gazette on 14 November 1986 and applies to the financial years of a company that end on or after 30 June 1987.

In all cases, compliance with a requirement of a standard is subject to any relevant provision of the Code.

Section 273 of the Code provides that the National Companies and Securities Commission may in certain cases make an order relieving the Directors of a company or class of companies from any specified requirements relating to accounts or group accounts.

The National Companies and Securities Commission has advised the Accounting Standards Review Board that it will consider issuing a Section 273 order relieving companies from the obligation to show the corresponding amounts for the immediately preceding financial year in respect of the first financial year to which a standard applies to a company, provided that those amounts would not otherwise be required to be shown. This obligation is set out in clause 12 of Schedule 7 as in force immediately before 1 October, 1986.
[Editorial note 1: No such class order was issued; see the introductory comment for further information.]

Statement of purpose

.03 The purpose of this accounting standard is to require in respect of construction contracts in progress –
(a) profits to be progressively brought to account;
(b) losses to be brought to account as soon as they are foreseeable; and
(c) the disclosure of material information;
so that users entitled to rely on the accounts or group accounts are able to assess the financial effects of those contracts on the company or group of companies.

Interpretation

.04 Where there is a conflict between the interpretation of a provision of this standard and the statement of purpose, the statement of purpose shall prevail.

Application of materiality: Accounting for Construction Contracts

.05 Information about accounting for construction contracts is material if its omission, non-disclosure or mis-statement is likely to affect economic decisions, or other evaluations, made by users entitled to rely on the accounts or group accounts. A loss or a cost in respect of a construction contract is material if information relating to it is material.
[Editorial note 2: The spelling error of "construction" rather than "construction" was in the standard as gazetted.]

Definitions

.06 In this approved accounting standard unless the contrary intention appears –

"brought to account" has the same meaning as that expression has in ASRB 1001: Accounting Policies – Disclosure, as applying from time to time;

"Code" has the same meaning as that expression has in ASRB 1001: Accounting Policies – Disclosure, as applying from time to time;

"construction contract" means a contract relating to construction work and includes –
(a) contracts to design, build, construct or produce;
(b) construction management contracts; and
(c) contracts for architectural, engineering and other services relating to construction work.

For endorsed comment see

Paragraph (xix) – Examples of construction contracts

"construction management contract" means a contract relating to the supervision and co-ordination of the construction activity on a project, including the negotiation of contracts with others for the construction work;

"contractor" means, in relation to a construction contract, a company that enters into a contract to build structures, construct facilities, produce goods, or render services to the specifications of a buyer either as a general or prime contractor, as a subcontractor to a general contractor, or as a construction manager;

"cost plus contract" means a construction contract where the contractor agrees to be reimbursed for agreed costs, plus an additional amount whether calculated as a fixed fee or as a percentage of agreed costs;

"fixed price contract" means a construction contract where the contractor agrees to a fixed total contract price or to a fixed charge per unit of work, whether or not such contract includes a rise and fall clause;

"gross amount of construction work in progress" means all costs incurred plus any profits brought to account less any losses brought to account including foreseeable losses;

"percentage of completion method" means the method of profit recognition whereby profit is brought to account in proportion to work performed on a construction contract for each financial year in which construction occurs.

Relevant provisions of the Code include:

Sub-section 266E(1) – "Unless the contrary intention appears in the accounting standard, an expression used in an approved accounting standard has the same meaning as the expression has in this Part (Part VI)"

Sub-section 5(1) – definition of "financial year"

Sub-section 266(1) – definitions of "accounts" and "group accounts"

Method of profit recognition

Fixed price contracts

.10 The amount of profit on fixed price contracts shall be brought to account in accordance with the percentage of completion method when all of the following conditions are satisfied –
(a) total contract revenues to be received can be reliably estimated;
(b) the costs to complete the contract can be reliably estimated;
(c) the stage of contract completion can be reliably determined; and
(d) the costs attributable to the contract to date can be clearly identified and can be compared with prior estimates.

Cost plus contracts

.11 The amount of profit on cost plus contracts shall be brought to account in accordance with the percentage of completion method when all of the following conditions are satisfied –
(a) the costs attributable to the contract to date can be clearly identified;
(b) costs other than those that are specifically reimbursable under the contract can be reliably estimated; and
(c) where payment under the terms of the contract is calculated by reference to the stage of completion – that stage can be reliably determined.

Conditions not satisfied

.12 If the conditions specified in clause .10 or clause .11, whichever is appropriate to the form of contract used, are not satisfied, either at the inception of a construction contract or during the course of a contract, no profit shall be brought to account until they are so satisfied.

For endorsed comment on clauses .10 to .12 see:

Paragraph (i) – Approach of ASRB 1009

Paragraphs (ii) and (iii) – Measurement of the percentage of completion

Paragraph (vii) – Periodic review of profit and construction work in progress

Provision for foreseeable losses

.20 A material loss on a construction contract, whether in relation to work completed or yet to be completed, shall be brought to account as soon as it is foreseeable.

For endorsed comment see:

Paragraph (vi) – Provision for foreseeable losses

Construction work in progress

.30 The costs to be included in the amount at which construction contract work in progress is stated shall comprise those costs that relate directly to a specific contract and those costs that are attributable to the contract activity in general that are capable of being allocated on a reasonable basis to specific contracts.

For endorsed comment see:

Paragraphs (iv) and (v) – Costs of construction contracts

Paragraph (vii) – Periodic review of profit and construction work in progress

Variations and penalties

.40 Amounts recoverable in respect of claims and variations shall be brought to account as revenue where the following conditions are satisfied –
(a) there is reasonable assurance that additional revenue will result from such claims; and
(b) the amount recoverable can be reliably estimated.

.41 The estimated costs of penalties shall, if material, be brought to account as costs attributable to the contract when it is probable that the criteria specified in the contract as minimum acceptable levels of performance will not be met.

For endorsed comment on clauses .40 and .41 see:

Paragraph (viii) – Claims by the contractor

Paragraphs (ix) to (xii) – Variation orders

Paragraph (xiii) – Penalty clauses

Paragraph (xiv) – Reward clauses

Paragraph (xv) – Performance guarantees

Disclosure in the accounts and group accounts

.50 The balance sheet, or the notes to the balance sheet, forming part of the accounts and group accounts, shall disclose the gross amount of construction work in progress and, as a deduction therefrom, the related aggregate progress billings. If progress billings exceed the gross amount of construction work in progress, the net amount shall be shown as a current liability.

.51 There shall also, if material, be separate disclosure in a note in the accounts and group accounts of the aggregate of cash received and

receivable as progress billings (including retention allowances) and advances on account of construction work in progress.

For endorsed comment on clauses .50 and .51 see:

Paragraph (xvi) – Retention allowances

Paragraph (xvii) – Advances on account of construction work in progress

Paragraph (xviii) – Disclosure of accounting policies

COMMENTARY

Approach of ASRB 1009

(i) The percentage of completion method provides a measure of periodic accomplishment. Application of the percentage of completion method involves estimates, particularly in respect of revenue and costs. This accounting standard requires that periodic profit on a construction contract is to be determined on the percentage of completion basis and brought to account when progress on the construction contract permits the outcome of a contract to be reliably estimated. This may occur in some circumstances only on completion of the contract.

Measurement of the percentage of completion

(ii) The percentage of completion method can be measured in three ways –
(a) physical estimates or surveys of the work performed to date;
(b) the cost basis – this method involves calculating the proportion that costs incurred to date bear to the estimated total costs of the contract; and
(c) the billings basis – this method involves calculating the proportion that billings to date bear to the total estimated billings for the contract and should only be applied when it provides a reliable measure of work performed.

(iii) When the percentage of contract completion is measured using the cost basis, adjustments are to be made to include only those costs that reflect work performed. Examples of items which may need adjustment are –
(a) materials purchased that have not been installed or used in the contract performance;
(b) payments to subcontractors to the extent that they do not reflect the amount of work performed under subcontracts; and
(c) penalties incurred by the contractor.

Costs of construction contracts

(iv) The costs incurred by a company or group that undertakes construction contracts can be divided into –
(a) costs that relate directly to a specific contract, for example:
- *direct labour costs (labour employed specifically on a contract including direct supervision);*
- *direct materials (materials used in the contract);*
- *depreciation of plant and equipment used on a contract;*
- *costs of moving plant and equipment to and from a site;*
- *expected warranty costs.*

(b) costs that are attributable to the contract activity in general and are capable of being allocated on a reasonable and consistent basis to specific contracts, for example:
- *tender preparation;*
- *insurance;*
- *design and technical assistance;*
- *project overheads.*

(c) costs that relate to the activities of the company or group generally, or that relate to contract activity generally and are normally not related to specific contracts, for example:
- *general administration and selling costs;*
- *finance costs;*
- *research and development costs;*
- *depreciation of idle plant and equipment.*

(v) Costs referred to in paragraph (iv)(c) are usually excluded from accumulated contract costs because they do not relate to reaching the present stage of completion of a specific contract. However, in circumstances where such costs are capable of being attributed to a particular contract they may be included as part of accumulated contract costs.

Provision for foreseeable losses

(vi) When current estimates of total contract costs and revenues for any contract indicate that a material loss is probable, the loss is to be brought to account regardless of the amount of work performed on the contract.

Periodic review of profit and construction work in progress

(vii) Application of the standard necessarily involves periodic assessment of the percentage of completion reached and of the total estimated profits on a contract. The profit brought to account in any one period may reflect an adjustment to the profit on the contract previously brought to account. In addition the application of the standard requires that the amount of construction work in progress carried in the balance sheet be reviewed regularly. Any amount not recoverable is required to be written off.

Claims by the contractor

(viii) In some contracts a contractor may claim compensation, in addition to the agreed contract price, for customer caused delays, errors in specification and design or for other reasons which were unforeseen and which resulted in additional cost to the contractor. The existence of possible claims may be known before completion of the contract, or may only emerge after the physical completion of the contract. These claims may not be settled for the amount which the contractor originally proposes as fair compensation as the ultimate amount to be collected depends on many factors, including the contractor's negotiating ability, the financial strength of the two parties, and the cost implications of possible litigation.

Variation orders

(ix) *A variation order involves a change in the scope of the work to be performed under the contract. Variation orders include changes in the method or manner of the work, changes in specifications or design and changes in the period of completion of the work. Variation orders can be initiated by either the contractor or the customer. They may also be priced or unpriced. Unpriced variation orders define the work to be performed, but the adjustment to the contract price is to be determined at a later date.*

(x) *Where variation orders are priced and agreed upon by the parties to the contract, the contract revenues and costs are to be adjusted to reflect the variation order.*

(xi) *Contractor initiated changes have the attributes of a claim and are to be evaluated in the light of the criteria specified in clause .40.*

(xii) *Additional revenue from unpriced customer initiated changes are to be brought to account on the basis specified in clause .40.*

Penalty clauses

(xiii) *Many construction contracts contain provision for penalties for falling short of various performance standards stipulated in the contract, for example, failure to complete the contract by the stipulated date. Such penalties are to be brought to account as costs when it is probable that the criteria specified in the contract as minimum levels of performance will not be met.*

Reward clauses

(xiv) *A limited number of construction contracts include reward clauses for bettering the specified performance standards. Revenues from such clauses are required by the standard to be brought to account when there is reasonable assurance that the criteria specified in the contract have been met.*

Performance guarantees

(xv) *Many construction contracts require that security be given by the contractor to the client before commencing the contract guaranteeing the performance of the contractor during the construction and maintenance periods. The security may take several forms, including:*
(a) lodging of assets (including cash, government bonds or inscribed stock); and
(b) third party guarantees (including bank guarantees, insurance bonds or insurance guarantee policies).

Retention allowances

(xvi) *Retention allowances are amounts of contract revenue which have been included in progress billings and have been withheld from payment by customers until a final acceptance of satisfactory completion of the job or the end of a specified period. They are brought to account as amounts receivable from customers.*

Advances on account of construction work in progress

(xvii) *Advances on account of construction work in progress are a liability of the*

Disclosure of accounting policies

(xviii) *As is required under ASRB 1001 "Accounting Policies – Disclosure" the summary of accounting policies included in the accounts or group accounts will provide details of all policies which have been significant in the preparation and presentation of the accounts and group accounts. The summary will therefore include all material details of the basis used to bring to account profit on construction contracts. This could include, for example, details of the minimum percentage of completion at which profits are initially brought to account in respect of contracts for various kinds of construction work.*

Examples of construction contracts

(xix) *Examples of construction contracts include, but are not limited to, contracts for general building, heavy earth moving, dredging, demolition, dams, pipelines, tunnels, ships and transport vessels.*

AASB 1011: Accounting for Research and Development Costs

Introductory Comments by the Technical Editors (I. L-St Amended CWP 1991)

The following introductory note has been prepared by the Technical Editors and does NOT form part of the approved accounting standard.

Approved accounting standard ASRB 1011: Accounting for Research and Development Costs was approved on 29 May 1987 and is effective for financial years ending on or after 30 September 1987. The standard was approved following the issue of ASRB Release 408 in March 1986. This "exposure draft" did not comply with the procedures outlined in ASRB Release 200: Procedures for the Approval of Accounting Standards, paragraph 4.3, having been released under the "fast-track" system announced in NCSC Media Release 85/63 which was designed to "clear the backlog in standards awaiting approval". The ASRB has expressed the view that this resulted in approval of standards which were not "consistent with the assumptions set out in ASRB Release 100" [ASRB Release 302: Annual Report 1985-1986, paragraph 5.2]. In the case of ASRB 1010 it has been suggested that the standard failed to satisfy the requirement of being well formulated and internally consistent, particularly in relation to the requirements of clause .25. Doubt has also be expressed whether the netting-off requirement of in clause .25 is consistent with Assumption 10 in ASRB Release 101 as, in terms of the consequences of the measurement, the netting-off suggests an aggregate rather than individual measuring of the assets. Fast-tracking was abandoned when all standards capable of such treatment had been considered by the Board [ASRB Release 303: Annual Report 1986-1987, paragraph 5.2]. The corresponding AAS standard is AAS 13.

Although the power of the ASRB to issue standards under section 266B of the *Companies Code* is limited to companies, other entities may be required by other laws to comply with standards approved by the ASRB under the *Companies Code*. The obligation of members of the Australian Society of Certified Practising Accountants and the Institute of Chartered Accountants in Australia to comply with AAS standards, when there is a corresponding ASRB standard, is explained in the 1990 reissue APS 1 "Conformity with Statements of Accounting Concepts and Accounting Standards", as being limited to reporting entities *other than* those "required by legislation, ministerial directive or other government authority to comply with applicable Approved Accounting Standards" [paragraphs 6 and 9]. This policy change was announced on 30 May 1989 and was immediately effective.

In July 1991, the Australian Accounting Standards Board issued Accounting Standard AASB 1025: Application of the Reporting Entity Concept and Other Amendments. Notice of the approval of this Standard was published in the Commonwealth of Australia Gazette on 23 August 1991. The Standard applies to financial years ending on or after 30 June 1992. Subsection 285(3) of the Corporations Law allows directors of a company to elect in writing that a Standard made under section 32 of the Corporations Act 1989 which has not yet come into operation (i.e., does not apply to the particular financial year, apart from sub-section (4)) shall apply to the financial year.

The principal objective of AASB 1025 is to put into place in all ASRB Standards the AASB's policies concerning the reporting entity concept, the application of materiality, interpretation provisions and transitional provisions. In respect of ASRB 1011, amendments are made to Citation (1011.00), Application (1011.02), Interpretation (1011.04), Materiality (1011.05), Definitions (1011.06) and Transitional (1010.70) clauses.

End of Introductory Comments by the Technical Editors

Citation

.00 This statement, with the exception of the words shown in italics, may be cited as Approved Accounting Standard ASRB 1011: Accounting for Research and Development Costs.

Endorsed explanatory material

.01 The words shown in italics do not form part of the approved standard. They are published with the standard as an aid to its interpretation.

Explanatory material is set out in two ways:
(a) immediately after certain of the requirements; and,
(b) as a commentary at the end of the standard.

Application

.02 This approved accounting standard applies –
(a) to the accounting for research and development activities other than
(i) research and development activities conducted for others under contract; and
(ii) specialised activities, in extractive industries, related to the exploration for and extraction of oil and natural gas reserves and mineral deposits to the extent that those activities are not comparable in nature to the research and development activities of other business enterprises;
(b) in relation to the first financial year of a company that ends after the expiration of four calendar months from the day on which this notice is published in the Gazette and in relation to subsequent financial years of the company.

This standard was published in the Gazette on 29 May, 1987, and applies to the financial years of a company that end on or after 30th September, 1987.

In all cases, compliance with a requirement of an approved standard is subject to any relevant provision of the Code.

Section 273 of the Code provides that the National Companies and Securities Commission may in certain cases make an order relieving the directors of a company from any specified requirements relating to accounts or group accounts.

Statement of purpose

.03 The purpose of this accounting standard is to require –
(a) the application of a method of accounting whereby research and development costs are matched against related benefits when such benefits are expected beyond any reasonable doubt; and
(b) the disclosure of material information which will enable users entitled to rely on the accounts or group accounts to assess the significance of research and development costs incurred by the company or group of companies.

Interpretation

.04 Where there is a conflict between the interpretation of a provision of this standard and the statement of purpose, the statement of purpose shall prevail.

Application of materiality : Accounting for Research and Development Costs

.05 Information about research and development is material if its omission, non-disclosure or mis-statement is likely to affect economic decisions or other evaluations made by users entitled to rely on the accounts or group accounts.

Definitions

.06 In this approved accounting standard unless the contrary intention

"balance date" means the end of the financial year to which the accounts or group accounts relate;

"carrying amount" means –
(a) in relation to an asset, the amount at which the asset is recorded in the accounting records at a particular date after deducting accumulated depreciation or amortisation;
(b) in relation to a class of assets, the sum of the carrying amounts of the assets in that class;

"Code" means, where this approved accounting standard applies in –
(a) the Australian Capital Territory – the Companies Act, 1981, and the regulations made under that Act; or
(b) a State or the Northern Territory – the Companies Code of a State or the Northern Territory as defined in the Companies (Application of Laws) Act of that State or the Northern Territory and the regulations applying under that Code;

"product" includes product, service, process or technique;

"recoverable amount", in relation to an asset, means the net amount that is expected to be recovered –
(a) from the total cash inflows less the relevant cash outflows arising from its continued use and through its subsequent disposal; or
(b) through its sale;

"research and development" means systematic investigation or experimentation that –
(a) involves innovation or technical risk; and
(b) is carried on for the purpose of –
(i) acquiring new knowledge; or
(ii) developing a new product or bringing about a significant improvement to an existing product.

For endorsed comment see:

Paragraphs (i) - (iv): Activities to be identified as research and development activities

Paragraphs (vii) - (ix): Research

Paragraphs (x) - (xi): Development

Relevant provisions of the Code include:

Sub-section 266E(1): "Unless the contrary intention appears in the accounting standard, an expression used in an approved accounting standard has the same meaning as the expression has in this Part [Part VI]".

Sub-section 5 (1): definition of "financial year".

Sub-section 266 (1): definitions of "accounts" and "group accounts".

Elements of costs to be included in research and development

.20 The costs to be included in the amount at which research and development costs are stated shall comprise-
(a) the cost of materials and services consumed in research and development activities;
(b) the salaries, wages and other related costs of personnel, to the extent that they are engaged in research and development activities;
(c) the depreciation of equipment and facilities to the extent that they are used for research and development activities;
(d) the amortisation of other assets, such as patents and licences, to the extent that they are related to research and development activities;
(e) costs incurred for the company or group by other entities on research and development activities, and charged to the company or group; and
(f) other costs that can be attributed to research and development activities and identified with specific projects.

For endorsed comment see:

Paragraphs (v)-(vi): Elements of costs to be identified with research and development activities

Accounting treatment of research and development costs

.30 Research and development costs shall be charged to the profit and loss account as incurred, except to the extent that they meet the criterion for deferral specified in clause .31.

.31 Costs incurred during the financial year on a research and development project shall be deferred to future financial years to the extent that such costs, together with unamortised deferred costs in relation to that project, are expected beyond any reasonable doubt to be recoverable.

For endorsed comment on clauses .30 and .31 see:

Paragraphs (vii)-(ix): Research

Paragraph (x)-(xi): Development

.32 Deferred research and development costs shall be amortised over future financial years to match such costs with related benefits, commencing with the commercial production of the product.

For endorsed comment see:

Paragraph (xii): Amortisation of deferred research and development costs

.33 The unamortised deferred research and development costs in respect of each research and development project shall be reviewed regularly and at each balance date and, to the extent that they exceed the recoverable amount, they shall be charged to the profit and loss account for the financial year.

Accounting treatment of government or other grants received in relation to costs incurred in research and development

.40 Where a grant is received or receivable in relation to research and development costs which have been deferred, the grant shall be deducted from the carrying amount.

.41 Where a grant is received or receivable in relation to research and development costs which have been charged to the profit and loss account during this or a prior financial year, the grant shall be credited to the profit and loss account.

For endorsed comment on clauses .40 and .41 see:

Paragraph (xiii): Accounting treatment of government or other grants received in relation to costs incurred in research and development.

Research and development costs previously charged to the profit and loss account

.50 Research and development costs which did not previously meet the criterion for deferral specified in clause .31 and were charged to the profit and loss account shall not be written back in the light of subsequent events.

Disclosure of research and development information

.60 The accounts and group accounts shall disclose if material -
(a) the amount of research and development costs charged to the profit and loss account during the financial year before crediting any related grants;
(b) the amount of research and development costs incurred during the financial year and deferred to future financial years before crediting any related grants;
(c) the amount of deferred research and development costs at the end of the financial year, with accumulated amortisation charges being shown separately as a deduction therefrom; and
(d) the basis for amortising any deferred research and development costs.

COMMENTARY

Activities to be identified as research and development

(i) This accounting standard provides a broad definition of research and development to assist in the classification of research and development activities. It should be noted that research and development includes research work in the social sciences and humanities as well as the physical sciences. The basic principle to apply is that if the plan or design of the product (which is defined to include product, service, process or technique) is substantially set, subsequent activities are likely to be in the nature of production or pre-production activities.

(a) research aimed at discovery of new knowledge;
(b) searching for applications of new research findings or other knowledge;
(c) formulation and design of possible new or significantly improved product alternatives;
(d) testing in search of new or significantly improved product alternatives; and
(e) evaluation of new or significantly improved product alternatives.

(iii) The following are examples of activities that typically are included in research and development, where they are carried on for a purpose directly related to research and development activities specified in (ii)-
(a) design, construction, and testing of pre-production prototypes and models;
(b) design of tools, jigs, moulds and dies;
(c) design, construction, and operation of a pilot plant that is not of a scale economically feasible for commercial production; and,
(d) "feedback research and development" directed at problem solving occurring beyond the research and development phase, for example, solving technical problems arising during initial test production runs.

(iv) The following are examples of activities that typically are excluded from research and development-
(a) standard engineering follow-through (in an early phase of commercial production) not in the nature of activities described in sub-paragraph (iii)(d);
(b) quality control during commercial production, including routine testing of products;
(c) "trouble-shooting" in connection with break-downs during commercial production;
(d) routine, on-going efforts to refine, enrich or otherwise improve upon the qualities of an existing product, for example, the making of cosmetic modifications;
(e) adaptation of an existing capability to a particular requirement or customer's need as part of a continuing commercial activity;
(f) seasonal or other periodic design changes to existing products;
(g) routine design of tools, jigs, moulds, and dies;
(h) activities, including design and construction engineering, related to the construction, relocation, rearrangement, or start-up of facilities or equipment (including trial and production runs) other than facilities or equipment whose sole use is for a particular research and development project;
(i) routine data collection, except where such activities are part of the research and development process;
(j) preparing for teaching; and
(k) routine or promotional market research, market testing or market development, or sales promotion (including consumer surveys).

Elements of costs to be identified with research and development activities

(v) The cost of materials and services consumed in research and development activities, and the salaries, wages and other related costs of personnel, to the extent that they are engaged in research and development activities, are included as research and development costs. Where other entities have incurred costs on

as research and development costs. In addition, those other costs that can be attributed to research and development activities and identified with specific projects are included. Donations made to other entities such as research institutes are not research and development costs.

(vi) The costs of the service potential of assets consumed in research and development activities are included as research and development costs. This includes the depreciation of equipment and facilities to the extent that they are used for research and development activities, and the amortisation of patents and licences to the extent that they are related to research and development activities.

Research

(vii) Research activities can be segregated into two types – basic research and applied research.

(viii) Basic research can be broadly defined as original investigation directed primarily towards the advancement of knowledge. It is undertaken without a specific practical aim or application and, consequently, there rarely exists any relationship between costs incurred on these activities and resulting future benefits. The costs of basic research would normally be charged to the profit and loss account when incurred.

(ix) Applied research can be broadly defined as original investigation directed primarily towards solving recognised practical problems. Unlike basic research it is undertaken with a specific practical aim or application. Normally, at the time costs are incurred on applied research activities, any future benefits are too uncertain to warrant deferral of the costs. Thus, the costs of applied research activities would normally be charged to the profit and loss account when incurred. However, because applied research activities are undertaken with specific practical objectives they may, on rare occasions, be associated with identifiable projects and a discernible relationship may exist between these projects and probable future benefits from a successfully marketed product or service or a successful process. In these cases, if the costs of applied research activities meet the test outlined in clause .31 they are deferred and amortised over future financial years.

Development

(x) Development activities are undertaken with specific commercial objectives and involve the translation of research findings and other scientific knowledge into plans or designs for new products or for significant improvements to existing products. These activities can be associated with identifiable projects and there may be a reasonable probability of future benefits, whether in the form of increased revenues or reduced costs, arising from such projects. Thus, development costs will meet the test for deferral more often than will research costs.

(xi) The likelihood of future benefits arising from particular development projects will vary, depending on the type of project and the prospects for commercial success. In those cases where the expected future benefits are too uncertain to justify carrying the expenditure forward, the costs are treated as an expense and

Amortisation of deferred research and development costs

(xii) *The amount of any deferred research and development costs is to be amortised over financial years in order to match such costs with related benefits. Amortisation will commence with the commercial production of the product and the basis of amortisation employed is to be determined by reference to the benefits expected to arise from the sale or use of the product.*

Accounting treatment of government or other grants received in relation to costs incurred in research and development

(xiii) *Where government or other grants are received or receivable by a company or group as reimbursement for costs incurred on research and development activities, the accounting treatment of such grants depends on the accounting treatment of the costs incurred. Where the costs are deferred, the grant is deducted from the carrying amount of the asset. Where the costs have been charged to the profit and loss account the grant is credited to the profit and loss account.*

AASB 1019: Measurement and Presentation of Inventories in the Context of the Historical Cost System

Introductory Comments by the Technical Editors

The following introductory note has been prepared by the Technical Editors and does NOT form part of the approved accounting standard.

Approved accounting standard ASRB 1019: Measurement and Presentation of Inventories in the Context of Historical Cost was approved on 30 October 1989 and is effective for financial years ending on or after 31 December 1989. Unlike earlier ASRB standards this standard has been approved on an interim basis only and will be subject to a further detailed review by the ASRB. The standard was approved following the issue of ASRB Release 416: Consideration by the Accounting Standards Review Board of Accounting Standards AAS 1, 2, 3, 4 and 7 for Interim Approval and Certain Proposed Amendments to such Standards in January 1989. The corresponding AAS standard, AAS 2, was reissued in November 1989 incorporating the changes in ASRB 1019. The exclusion of marketable securities from both ASRB 1019 and AAS 2 undermines whatever authority the guidance in AAG 9 "Accounting for Marketable Securities in the Context of Statements of Accounting Standards AAS 2 and AAS 10" [issued April 1988] has in relation to ASRB 1019. It should be noted that AAG 9 has not been given express approval by the ASRB.

Although the power of the ASRB to issue standards under section 266B of the *Companies Code* is limited to companies, other entities may be required by other laws to comply with standards approved by the ASRB under the *Companies Code*. The obligation of members of the Australian Society of Certified Practising Accountants and the Institute of Chartered Accountants in Australia to comply with AAS standards, when there is a corresponding ASRB standard, is explained in the 1990 reissue APS 1 "Conformity with Statements of Accounting Concepts and Accounting Standards", as being limited to reporting entities *other than* those "required by legislation, ministerial directive or other government authority to comply with applicable Approved Accounting Standards" [paragraphs 6 and 9]. This policy change was announced on 30 May 1989 and was immediately effective.

In July 1991, the Australian Accounting Standards Board issued Accounting Standard AASB 1025: Application of the Reporting Entity Concept and Other Amendments. Notice of the approval of this Standard was published in the Commonwealth of Australia Gazette on 23 August 1991. The Standard applies to financial years ending on or after 30 June 1992. Subsection 285(3) of the Corporations Law allows directors of a company to elect in writing that a Standard made under section 32 of the Corporations Act 1989 which has not yet come into operation (i.e., does not apply to the particular financial year, apart from sub-section (4)) shall apply to the financial year.

The principal objective of AASB 1025 is to put into place in all ASRB Standards the AASB's policies concerning the reporting entity concept, the application of materiality, interpretation provisions and transitional provisions. In respect of ASRB 1018, amendments are made to Citation (1018.00), Application (1018.02), Interpretation (1018.04), Materiality (1018.05), and Definitions (1018.06) clauses.

In September 1993, AARF Issued Discussion Paper No. 18 "A Review of the Australian Accounting Standards on Inventories".

In July 1994, ED 61 Application of Accounting Standards to Disclosing Entities other than Companies was issued with comments being sought by 30 September 1994. ED 61 proposes that Accounting Standards issued by the AASB be applied to the financial year accounts and consolidated accounts of disclosing entities that are not companies.

For the half-year ending on or after 31 December 1994, each disclosing entity is required to prepare half-year accounts or consolidated accounts under the enhanced disclosure provisions of the Corporate Law Reform Act 1994. Under AASB 1029: Half-Year Accounts and Consolidated Accounts, the amounts and other disclosures included in the half-year accounts or consolidated accounts, whether required by AASB 1029 or made voluntarily, are to be determined in accordance with AASB Accounting Standards.

End of Introductory Comments by the Technical Editors

Citation

.00 This standard, with the exception of the words shown in italics, may be cited as Approved Accounting Standard ASRB 1019: Measurement and Presentation of Inventories in the Context of the Historical Cost System.

Endorsed explanatory material

.01 The words shown in italics do not form part of the standard. They are published with the standard as an aid to its interpretation.

Explanatory material is set out in two ways:
(a) immediately after certain of the requirements; and
(b) as a commentary at the end of the standard.

Application

.02 This standard:
(a) applies to each company in relation to its first financial period that ends on or after 31 December 1989, and in relation to subsequent financial periods of the company; and
(b) does not apply to inventories that are:
(i) forests, livestock, or similar regenerative natural resources;
(ii) work in progress under long-term engineering, real estate development or construction projects; or
(iii) marketable securities.

Notice of the approval of this standard was published in the Commonwealth of Australia Gazette on 30 October 1989.

In all cases, compliance with a requirement of a standard is subject to any relevant provision of the Code.

Statement of purpose

.03 The purpose of this standard is:
(a) to specify the method of measuring inventories and the manner in which costs are to be assigned to inventories in the context of the historical cost accounting system; and
(b) to require disclosure of information relating to inventories in the accounts and group accounts of a company;
so that users entitled to rely on the accounts or group accounts are provided with information on inventories which is necessary for an understanding of the financial position, performance, and financing and investing of the company or group of companies.

Interpretation

.04 Where there is a conflict between the interpretation of a provision of this standard and the statement of purpose, the statement of purpose shall prevail.

Application of materiality: Inventories

.05 Information about inventories is material if its omission, non-disclosure or mis-statement is likely to affect economic decisions or other evaluations made by users entitled to rely on the accounts or group accounts.

Definitions

.06 In this standard unless the contrary intention appears:

"**absorption costing**" means the method whereby the cost of inventories is determined so as to include the appropriate share of both variable and fixed costs, the latter being allocated on the basis of normal operating capacity;

"**balance date**" means the end of the financial period to which the accounts or group accounts relate;

"**brought to account**" means recognised in the accounts or group accounts, otherwise than by way of note;

"**Code**" means, where this standard applies in –
(a) the Australian Capital Territory – the Companies Act 1981, and the regulations made under that Act; or
(b) a State or the Northern Territory – the Companies Code of a State or the Northern Territory, as defined in the Companies (Application of Laws) Act of that State or the Northern Territory and the regulations applying under that Code;

"**cost of conversion**" means:
(a) the cost of direct labour (including any charges directly incurred in connection with the employment of such labour) and of sub- contracted work; and
(b) other production costs ascertained in accordance with the absorption costing method and excludes costs which relate to general administration, finance, marketing, selling and distribution to customers;

"**cost of inventories**" means the aggregate of:
(a) the cost of purchase;
(b) the cost of conversion; and
(c) other costs;

incurred in the normal course of operations in bringing the inventories to their present location and condition;

"**cost of purchase**" means the purchase price plus duties and taxes, inwards transport costs and any other directly attributable costs of acquisition, less discounts (other than settlement discounts), rebates and subsidies whether immediate or deferred;

"**current assets**" means, in relation to –
(a) a corporation – cash or other assets of the corporation that would in the ordinary course of business of that corporation be consumed or converted into cash within 12 months after the end of the last financial period of that corporation; or
(b) a group of companies – cash or other assets of each corporation in the group that would in the ordinary course of business of that corporation be converted into cash within 12 months after the end of the last financial

(a) accounts of a corporation referred to in paragraph 158(5)(b) of the Code or, where that corporation is a holding company, the group accounts prepared in accordance with that paragraph – the period of six months after the end of the financial year of that corporation;
(b) a set of consolidated accounts of a borrowing corporation and each guarantor corporation referred to in paragraph 158(6)(b) of the Code – the period of six months after the end of the financial year of the borrowing corporation; or
(c) the accounts or group accounts of any other corporation the financial year of the corporation;

"**fixed costs**" means those costs of production which remain relatively constant from financial period to financial period irrespective of variations, within normal operating limits, in the volume of production;

"**inventories**" means goods, other property and services:
(a) held for sale in the ordinary course of business;
(b) in the process of production for such sale; or
(c) to be used up in the production of goods, other property or services for sale including consumable stores and supplies, but does not include depreciable assets as defined in Approved Accounting Standard ASRB 1021: Depreciation of Non-Current Assets;

"**net realisable value**" means the estimated proceeds of sale less, where applicable, all further costs to the stage of completion and less all costs to be incurred in marketing, selling and distribution to customers;

"**non-current assets**" means all assets other than current assets;

"**replacement cost**" means the cost at which an identical inventory item could be purchased or manufactured at balance date, having regard to normal purchasing or production quantities and conditions; and

"**variable costs**" means those costs of production which vary directly, or nearly directly, with the volume of production.

Relevant provisions of the Code include:

Sub-section 266E(1): "Unless the contrary intention appears in the accounting standard, an expression used in an approved accounting standard has the same meaning as the expression has in this Part [Part VI]".

Sub-section 5(1): definition of "financial year" and "marketable securities".

Sub-section 266(1): definition of "accounts" and "group accounts".

Inventory measurement

.10 Subject to clauses .11 and .50, inventories shall be measured at the lower of cost and net realisable value on an item by item basis.

.11 When it is impracticable to measure items of inventory separately

For endorsed comment see:

Paragraphs (i) and (ii): The general basis of inventory measurement

Paragraphs (ix) to (xiv): Net realisable value

Determining cost and net realisable value

.20 Costs arising from exceptional wastage (material, direct labour or production expenses) shall be excluded when determining cost of inventories.

.21 Cost of inventories shall be based on standard costs only where standards are set so as to be realistically attainable and are reviewed regularly and, where necessary, revised in the light of current conditions. The cost of inventories so derived shall be adjusted for cost variances caused by significant changes in material prices, labour rates, manufacturing expenses or operating conditions to the extent that such variances directly relate to inventories on hand.

.22 Replacement cost shall be used only where it represents a fair approximation of net realisable value.

.23 When assessing the lower of cost and net realisable value, the net realisable value of inventory quantities held for delivery against firm sales contracts shall be based on the contract price.

.24 The retail inventory method shall be used to determine the cost of inventories only when it results in an amount reasonably approximating the lower of cost and net realisable value.

For endorsed comment see:

Paragraphs (iii) to (viii): Determining cost in relation to inventories

Paragraphs (ix) to (xiv): Net realisable value

Assigning costs to inventories

.30 Cost of inventories shall be assigned to particular items of inventory by one or more of the following methods:
(a) specific identification;
(b) average cost (weighted);
(c) first in first out (FIFO); and
(d) standard cost.

.31 The method adopted shall be appropriate to the circumstances and applied consistently from financial period to financial period.

For endorsed comment see:

Materials, consumable stores and supplies

.40 Normal quantities of materials, consumable stores and supplies held for use in the production of finished goods for sale shall not be measured at less than cost where the net realisable value of those finished goods is expected to equal or exceed the cost of those finished goods.

For endorsed comment see:

Paragraphs (x) and (xi): Net realisable value

By-products

.50 When the costs of by-products are not separable from the costs of the principal products, inventories of such by-products shall be stated at net realisable value. The net realisable value of the by-products shall be deducted from the total cost of inventories in order to arrive at the cost of the principal products.

Disclosures in the accounts and group accounts

.60 Where the information is material, the accounts and group accounts shall disclose:
(a) inventories by class in the balance sheet in a manner appropriate to the business, stating the amount for each such class, including, as a minimum, the following classes as between current assets and non current assets:
(i) raw materials and stores;
(ii) work in progress;
(iii) finished goods; and
(iv) land held for resale; and
(b) the general basis or bases adopted in inventory measurement, and the method(s) used to assign costs to the inventory quantities held at balance date.

Transitional provision

.70 Where the accounting treatments required by this standard are not already being applied at the date this standard is first applied they shall be applied retrospectively. Where this gives rise to adjustments to the carrying amounts of inventories any corresponding net adjustment shall, in accordance with clause .11 of Approved Accounting Standard ASRB 1018: Profit and Loss Accounts, be adjusted against retained profits or accumulated losses at the beginning of the financial period in which this standard is first applied.

COMMENTARY

The general basis of inventory measurement

(i) Inventories are acquired in the expectation of deriving revenue, directly or indirectly, from their sale or use in producing finished goods. In order to

Thus, in historical cost accounting, the principal basis for stating inventories held at balance date is cost.

(ii) *However, if it is not probable that there will be sufficient future revenue to cover the cost incurred as a result, for example, of deterioration, obsolescence or a change in demand, it is necessary that any irrecoverable cost be brought to account as an expense in the current financial period. Thus, inventories normally are stated at net realisable value if this is lower than cost.*

Determining cost in relation to inventories

(iii) *Production costs can be segregated into variable costs and fixed costs. This distinction is of particular importance in relation to depreciation. Where depreciation charges (in recognition of obsolescence as the prime factor) are made on a time basis, variations in the volume of production will not affect the amounts charged and therefore depreciation, in such cases, is considered to be a fixed cost. However, where depreciation charges (in recognition of wear and tear as the prime factor) are computed on an output basis, they will vary in direct relationship with the volume of production and in such circumstances depreciation is more correctly treated as a variable cost.*

(iv) *The two main methods for dealing with fixed costs are direct costing and absorption costing. Absorption costing better reflects the cost of obtaining the service potential of inventories and is required by this standard.*

(v) *Under absorption costing, fixed costs are included in the cost of inventories because they are considered to be as much a part of the cost of conversion as are direct labour and other variable costs. Under direct costing, fixed production costs are treated as period costs (that is, they are brought to account as expenses in the financial period in which they are incurred) and thus excluded from the cost of inventories. The supporters of absorption costing argue that it is the only method that gives proper recognition to the total cost of inventories, whereas use of direct costing may significantly understate the cost of inventories.*

(vi) *It is necessary for fixed costs included in the cost of inventories to be based on the company's normal operating capacity with any variance due to excess capacity being brought to account as an expense in the current financial period. In determining what constitutes normal capacity, the following factors need to be considered:*

- *(a) the volume of production which the production facilities are intended by their designers and by management to yield under the working conditions (for example, single or double shift) normally prevailing;*
- *(b) the budgeted level of activity for the current financial period and for the ensuing financial period; and*
- *(c) the level of activity achieved both in the current financial period and in previous financial periods.*

Although temporary changes in the level of activity may be ignored, persistent variation could require a revision of the previous norm.

(vii) *Standard costs are often used to arrive at cost for the purpose of inventory determining the cost of inventories is considered acceptable only if standards are set so as to be realistically attainable and are reviewed regularly and, where necessary, revised in the light of current conditions. The manner in which balances in cost variance accounts are dealt with, in relation to inventories on hand at balance date, will depend upon the nature of the variances and also the circumstances which caused them. If standards have been properly set and maintained, they are a sound basis for determining cost for the purpose of inventory measurement and all variances from standard can be brought to account as expenses or revenues in the financial period in which they arise. However, should significant changes have occurred in any of the factors on which the standards are based without the standard cost being amended accordingly, inventory measurement on the basis of those standard costs will require an apportionment between cost of goods sold and inventories of the resultant variances.*

(viii) *The ascertainment of cost of inventories in merchandising businesses can be difficult where the inventory comprises a large number of items with a high rate of turnover and the cost of individual items is often not readily obtainable. Under these circumstances a method widely followed, and known as "the retail inventory method", produces a measure of inventory which normally approximates the lower of cost and net realisable value. This method involves the discounting of the selling value (that is, value at current selling prices after mark-downs, if any) of the total inventory in a merchandise department, or classification, by the current average mark-up in that department, or classification, expressed as a percentage of the selling price. Where an inventory contains seasonal and slow moving items which are not expected to be sold at their original selling price and their price has therefore been marked down, the application of the retail inventory method could result in the particular items being measured at less than cost; when those items are ultimately sold, the normal gross profit percentage would in these circumstances be achieved. The use of actual gross profit percentages (which reflect the incidence of mark-downs as well as losses through theft and damage), in place of the current financial period's average mark-up, cannot be supported, as it could result in the cost of inventories being overstated.*

Net realisable value

(ix) *The initial calculation to reduce inventories from cost to net realisable value may often be made by using formulae based on predetermined criteria. The formulae normally take into account, as appropriate, the age, past movements, expected future movements and estimated scrap values of the inventories. Whilst the use of such formulae establishes a basis which can be consistently applied, it is still necessary for the result to be reviewed in the light of any special circumstances not anticipated in the formulae, such as changes in current demand.*

(x) *In respect of spares held for sale or use in after-sales service, past and future inventory movements need to be related to the total number of units in existence on which the spares can be used and also to the approximate date by which the last of those units can be expected to have gone out of service.*

(xi) *Special consideration needs to be given to materials, component parts and sub-*

which they are to be incorporated can be expected to equal or exceed the cost of that product. Where it is necessary to reduce the amount to be assigned to inventories of finished products from cost to net realisable value, inventories of materials, components and sub-assemblies held for the purpose of manufacturing such products need to be reviewed at the same time, having particular regard to any outstanding purchase orders, in order to determine if those items should also be reduced accordingly.

(xii) *The principal situations in which net realisable value is likely to be less than cost of inventories are those where there has been:*

(a) *a fall in selling price;*
(b) *physical deterioration of inventories;*
(c) *obsolescence of products;*
(d) *a decision, as part of a company's marketing strategy to manufacture and sell products for the time being at a loss; or*
(e) *miscalculations or other errors in purchasing or production.*

Furthermore, when inventories held are in excess of the quantities expected to be sold within the turnover period normal in the particular industry, there is an increased possibility that the risks outlined in (a) to (c) above may be encountered. Such risks therefore need to be taken into account in assessing net realisable value.

(xiii) *The comparison of cost and net realisable value needs to be made separately in respect of each item of inventory. Where this is impracticable, groups or categories of similar inventory items may have to be taken together. Comparison of the aggregate of the net realisable values of all the inventory items with the aggregate of the costs of all those items is not acceptable because it could result in bringing to account, wholly or in part, unrealised inventory gains.*

(xiv) *Items of inventory are sometimes stated in accounts and group accounts at their estimated replacement cost where this is lower than cost. There is no objection to this practice provided that replacement cost represents a fair approximation of net realisable value. Where replacement cost is less than net realisable value, its use is not regarded as acceptable in accounts and group accounts based on the historical cost system, because, in the context of this system, it could have the effect of distorting results as between successive financial periods.*

Inventory movements and cost flow

(xv) *A question separate from and additional to the determination of cost, is the assignment of costs to the inventory quantities held at balance date. Of the various methods which are used, each of the following, when employed in the appropriate circumstances, can be considered to achieve the objective of assigning costs with proper regard for the relationship between inventory movements and historical cost flows:*

(a) *specific identification – this method assigns specific costs to identified units of inventory;*
(b) *average cost – this method assigns weighted average costs, arrived at by means of a continuous calculation, a periodic calculation or a moving periodic calculation;*
(c) *first in first out (FIFO) – this method assigns costs on the assumption*
(d) *standard cost – this method assigns predetermined costs, subject to adjustment for cost variances where appropriate.*

(xvi) *In selecting one or more of the methods referred to above, management must exercise judgement to ensure that the method chosen provides the fairest practicable accounting reflection of the reality of the situation. It may, for example, be inappropriate to apply averages based on costs incurred over a whole financial period, in circumstances where there was a complete turnover of inventories several times during that financial period.*

AASB 1020: Accounting for Income Tax (Tax-Effect Accounting)

Introductory Comments by the Technical Editors (I. L-S: Amended CWP 1991)

The following introductory note has been prepared by the Technical Editors and does NOT form part of the approved accounting standard.

Approved accounting standard ASRB 1020: Accounting for Income Tax (Tax-effect Accounting) was approved on 30 October 1989 and is effective for financial years ending on or after 31 December 1989. Unlike earlier ASRB standards this standard has been approved on an interim basis only and will be subject to a further detailed review by the ASRB. The standard was approved following the issue of ASRB Release 416: Consideration by the Accounting Standards Review Board of Accounting Standards AAS 1, 2, 3, 4 and 7 for Interim Approval and Certain Proposed Amendments to such Standards in January 1989. The provisions relating to the treatment of changes in income tax rates foreshadowed in ASRB Release 416 have been implemented. The corresponding AAS standard, AAS 3, was reissued in November 1989 incorporating the changes in ASRB 1020. Guidance on the implementation of the AAS 3 is contained in AAG 2 "Accounting for a Change in the Rate of Company Income Tax" [December 1985], AAG 4 "Accounting for the Intra-group Transfer of Tax Losses" [December 1985], AAG 6 "Accounting for the Fringe Benefits Tax" [July 1987], AAG 7 "Accounting Implications of Dividend Imputation" [August 1987] and AAG 8 "Accounting for the Capital Gains Tax" [September 1987]. The subsequent reissue of AAS 3 has not impaired the authority of the guidance provided in these releases, but it should be noted that neither AAG 4, or AAG 6, nor AAG 8 has been given express approval by the ASRB.

Although the power of the ASRB to issue standards under section 266B of the *Companies Code* is limited to companies, other entities may be required by other laws to comply with standards approved by the ASRB under the *Companies Code*. The obligation of members of the Australian Society of Certified Practising Accountants and the Institute of Chartered Accountants in Australia to comply with AAS standards, when there is a corresponding ASRB standard, is explained in the 1990 reissue APS 1 "Conformity with Statements of Accounting Concepts and Accounting Standards", as being limited to reporting entities *other than* those "required by legislation, ministerial directive or other government authority to comply with applicable Approved Accounting Standards" [paragraphs 6 and 9]. This policy change was announced on 30 May 1989 and was immediately effective.

In July 1991, the Australian Accounting Standards Board issued Accounting Standard AASB 1025: Application of the Reporting Entity Concept and Other Amendments. Notice of the approval of this Standard was published in the Commonwealth of Australia Gazette on 23 August 1991. The Standard applies to financial years ending on or after 30 June 1992. Subsection 285(3) of the Corporations Law allows directors of a company to elect in writing that a Standard made under section 32 of the Corporations Act 1989 which has not yet come into operation (i.e., does not apply to the particular financial year, apart from sub-section (4)) shall apply to the financial year.

The principal objective of AASB 1025 is to put into place in all ASRB Standards the AASB's policies concerning the reporting entity concept, the application of materiality, interpretation provisions and transitional provisions. In respect of ASRB 1020, amendments are made to Citation (1020.00), Application (1020.02), Interpretation (1020.04), Materiality (1020.05), Definitions (1020.06), and Transitional (1020.50) clauses.

End of Introductory Comments by the Technical Editors

Citation

.00 This standard, with the exception of the words shown in italics, may be cited as Approved Accounting Standard ASRB 1020: Accounting for Income Tax (Tax-effect Accounting).

Endorsed explanatory material

.01 The words shown in italics do not form part of the standard. They are published with the standard as an aid to its interpretation.

Explanatory material is set out in two ways:
(a) immediately after certain of the requirements; and
(b) as a commentary at the end of the standard.

Application

.02 This standard applies to each company in relation to its first financial period that ends on or after 31 December 1989, and in relation to subsequent financial periods of the company.

Notice of approval of this standard was published in the Commonwealth of Australia Gazette on 30 October 1989.

In all cases, compliance with a requirement of a standard is subject to any relevant provision of the Code.

Statement of purpose

.03 The purpose of this standard is:
(a) to specify the method for determining income tax expense, provision for income tax, provision for deferred income tax and future income tax benefit; and
(b) to require disclosure in the accounts and group accounts of information in relation to income tax expense, provision for income tax, provision for deferred income tax and future income tax benefit;
so that users entitled to rely on the accounts or group accounts are provided with information on the impact of tax on the income of companies under provisions of the Australian Income Tax Assessment Act 1936 (and of any applicable foreign tax legislation) which is necessary for an understanding of the financial position, performance, and financing and investing of the company or group of companies.

Interpretation

.04 Where there is a conflict between the interpretation of a provision of this standard and the statement of purpose, the statement of purpose shall prevail.

Application of materiality: Accounting for Income Tax

.05 Information about accounting for income tax is material if its omission, non-disclosure or mis-statement is likely to affect economic decisions or other evaluations made by users entitled to rely on the accounts or group accounts.

Definitions

.06 In this standard unless the contrary intention appears:

"brought to account" means recognised in the accounts or group accounts, otherwise than by way of note;

"Code" means, where this standard applies in –
(a) the Australian Capital Territory – the Companies Act 1981, and the regulations made under that Act; or
(b) a State or the Northern Territory – the Companies Code of a State or the Northern Territory, as defined in the Companies (Application of Laws) Act of that State or the Northern Territory and the regulations applying under that Code;

"financial period" means, in relation to -
(a) accounts of a corporation referred to in paragraph 158(5)(b) of the Code or, where that corporation is a holding company, the group accounts prepared in accordance with that paragraph – the period of six months after the end of the financial year of that corporation;
(b) a set of consolidated accounts of a borrowing corporation and each guarantor corporation referred to in paragraph 158(6)(b) of the Code – the period of six months after the end of the financial year of the borrowing corporation; or
(c) the accounts or group accounts of any other corporation – the financial year of the corporation;

"future income tax benefit" means the estimated amount of future saving in income tax likely to arise as a result of:
(a) the reversal of timing differences; and
(b) the recoupment of carried forward tax losses (which for the purposes of this standard are dealt with separately from other timing differences);

"income tax expense" means the amount of income tax which would be payable on the pre-tax accounting profit adjusted for permanent differences. The term "income tax benefit" is used to describe this amount where it is a net credit;

"income tax payable" means the amount of income tax calculated on the taxable income of a company for the financial period;

"permanent differences" means differences between taxable income or tax loss and pre-tax accounting profit or loss arising from the existence of:
(a) particular expenses and particular items of revenue, which, under current income tax legislation, will never be included in the determination of taxable income or tax loss although they are brought to account in the profit and loss account; and
(b) particular amounts which are allowable deductions or which are assessable income for income tax purposes although these amounts will never be brought to account in the profit and loss account;

"pre-tax accounting profit or loss" means the aggregate of the operating profit or loss and the extraordinary items for a given financial period before charging the related income tax expense or before crediting the related future income tax benefit;

"provision for deferred income tax" means the non-current liability for the estimated amount of income tax expected to be assessed in the future as a result of the reversal of timing differences;

"provision for income tax" means the current liability for the estimated amount of income tax which is assessable on the taxable income of the company for the current and prior financial periods (to the extent that such tax has not been already paid);

"taxable income" means the excess of assessable income over allowable deductions calculated according to the provisions of the applicable income tax legislation ("tax loss" means the converse); and

"timing differences" means differences between pre-tax accounting profit or loss and taxable income or tax loss for a given financial period which arise because the financial period in which some items of revenue

and expense are included in the determination of the pre-tax accounting profit or loss does not coincide with the financial period in which they are included in the determination of taxable income or tax loss.

Each timing difference originates in one financial period and is reversed, or "turns around", in one or more subsequent financial periods.

Relevant provisions of the Code include:

Sub-section 266E(1): "Unless the contrary intention appears in the accounting standard, an expression used in an approved accounting standard has the same meaning as the expression has in this Part [Part VI]".

Sub-section 5(1): definition of "financial year" and "profit and loss account".

Sub-section 7(1): definition of "subsidiary".

Sub-section 266(1): definition of "accounts", "group accounts" and "group of companies".

Determination of income tax expense, provision for deferred income tax and future income tax benefit

.10 The amount of the income tax expense attributable to the transactions included in the profit and loss account for a financial period shall be brought to account in that profit and loss account irrespective of whether the income tax is currently payable, or has already been paid, or will become payable in the future. The amount of such income tax expense shall be calculated on the pre-tax accounting profit or loss, adjusted for permanent differences (if any), by using the liability method of tax-effect accounting. Where the permanent differences are material, a note to the accounts and group accounts shall state their general nature and the extent to which they have affected the amount of income tax expense.

.11 If in respect of a financial period the income tax payable differs from the income tax expense, the amount of the difference:
(a) shall be brought to account and disclosed as a liability, described as "provision for deferred income tax", to the extent that the difference arises from timing differences caused by the present deductibility for tax purposes of expenses deferred for accounting purposes and/or the present non-assessability for tax purposes of revenue included in the determination of pre-tax accounting profit or loss; and
(b) shall, subject to the provisions of clauses .12 and .13, be brought to account and disclosed as an asset, described as "future income tax benefit", to the extent that the difference arises from timing differences caused by the present non-deductibility for tax purposes of expenses included in the determination of the pre-tax accounting profit or loss and/or the current assessability for tax purposes of revenue items deferred for accounting purposes.

For endorsed comment on clauses .10 and .11 see:

Paragraphs (ii) and (iii): Differences between taxable income or tax loss and pre-tax accounting profit or loss

Paragraphs (iv) to (vii): The liability method of tax-effect accounting

.12 A future income tax benefit referred to in clause .11 shall only be carried forward as an asset where realisation of the benefit can be regarded as being assured beyond any reasonable doubt. Realisation shall depend upon:
(a) the ability of the company to derive future assessable income of a nature and of sufficient amount to enable the benefit to be realised;
(b) the ability of the company to continue to comply with the conditions for deductibility imposed by law; and
(c) an expectation that legislation will not change in a manner which would adversely affect the company's ability to realise the benefit.

.13 In the case of companies which incur losses, any future income tax benefit shall not be brought to account as an asset unless realisation of the benefit is virtually certain. Where any part of a future income tax benefit carried forward as an asset is attributable to tax losses, that part shall be separately disclosed by way of note in the accounts and group accounts.

.14 Where a provision for deferred income tax exists and a company incurs a tax loss, the future income tax benefit attributable to the tax loss shall be brought to account as a reduction of the provision for deferred income tax to the extent that deferred income tax has already been provided in respect of timing differences which will reverse within the financial periods during which the tax loss will remain available as a deduction from assessable income. The amount representing the reduction in the provision shall be shown in the accounts and group accounts by way of note or otherwise and described as "provision for deferred income tax no longer required". The extent to which the provision for deferred income tax is reduced by future income tax benefits attributable to tax losses shall be separately disclosed by way of note in the accounts and group accounts of each financial period while the losses remain available as a deduction.

.15 To the extent that a future income tax benefit attributable to tax losses has not been recognised as an asset or as a reduction in a provision for deferred income tax and there is a possibility that the tax losses will be recouped in accordance with tax legislation, the future income tax benefit expected to arise from the recoupment shall be shown by way of a note to the accounts and group accounts. The note shall state that the benefit will only be obtained if:
(a) the company derives future assessable income of a nature and of an amount sufficient to enable the benefit from the deductions for the loss to be realised;
(b) the company continues to comply with the conditions for deductibility imposed by tax legislation; and
(c) no changes in tax legislation adversely affect the company in realising the benefit from the deductions for the loss.

.16 In any financial period in which past income tax losses are recouped, the income tax expense for that financial period, determined in accordance with clause .10 above, shall be brought to account in the profit and loss account in the normal way, and –
(a) to the extent that the future income tax benefit attributable to such losses has not been brought to account (or if it had been brought to account and subsequently reversed) – the tax benefit derived from the recoupment of those losses shall be included in the profit and loss

(b) if a future income tax benefit had been previously brought to account in relation to tax losses – that future income tax benefit shall be reduced by the amount of the realised tax benefit; or
(c) if a provision for deferred income tax had been previously reduced or eliminated – the excess of the income tax expense (less the amounts, if any, already dealt with under paragraphs (a) and (b) above) over the income tax currently payable shall be added to the provision for deferred income tax so that when the past tax losses are recouped and income tax becomes payable the provision will be sufficient to cover the income tax which becomes payable as the related timing differences reverse.

.17 Where differences arise between the amount of the income tax payable in respect of a financial period and the income tax expense for the same financial period, and some or all of the differences arise because of reversals of timing differences brought to account in prior financial periods, the differences attributable to such reversals shall be adjusted against the balance shown in the future income tax benefit account, or provision for deferred income tax account. At each balance date a transfer shall be made from the provision for deferred income tax to the provision for income tax of any portion of the first-mentioned provision which has become a current liability as a result of the reversal of timing differences.

For endorsed comment on clauses .12 to .17 see:

Paragraphs (viii) to (xii): Future income tax benefits

.18 Except in the case of group accounts, a provision for deferred income tax shall be offset against future income tax benefit brought to account, to the extent that income tax covered by the provision is likely to become payable in the same financial periods as the future income tax benefit is expected to become realisable.

Group accounts

.20 A future income tax benefit brought to account by one company in a group of companies shall not be offset against a provision for deferred income tax brought to account by another company in the group of companies, when drawing up group accounts.

Taxes on distribution of profits and reserves

.30 Where accounts or group accounts include profits and reserves of branch operations or subsidiaries which, on distribution to the company or holding company, will be subject to overseas withholding tax or to further Australian income tax, the reduction which this future tax will impose on the amount ultimately available to the company or holding company shall be brought to account as provision for deferred income tax in the accounts or group accounts unless there is evidence that the company or holding company intends to leave those profits and reserves indefinitely in the hands of the branch operations or subsidiaries.

Changes in income tax rates

.40 Whenever there is a change in the income tax rate, either or both of the provision for deferred income tax and the future income tax benefit brought forward from the previous financial period shall be adjusted accordingly. If the adjustment is material, the corresponding amount brought to account in the profit and loss account shall be disclosed.

Transitional provision

.50 Where the accounting treatments required by this standard are not already being applied at the date this standard is first applied they shall be applied retrospectively. Where this gives rise to initial adjustments, the net amount of these adjustments shall, in accordance with clause .11 of Approved Accounting Standard ASRB 1018: Profit and Loss Accounts, be adjusted against retained profits or accumulated losses at the beginning of the financial period in which this standard is first applied.

COMMENTARY

Differences between taxable income or tax loss and pre-tax accounting profit or loss

(i) Under Australian income tax legislation, the amount of tax levied against a company is based upon its taxable income or tax loss which will often differ in amount from its pre-tax accounting profit or loss because of permanent and timing differences.

(a) Permanent differences

(ii) Permanent differences alter the incidence of income tax in relation to the pre-tax accounting profit or loss of the financial period in which they occur, but do not affect income tax calculations in respect of subsequent financial periods. An example of an item creating a permanent difference under present income tax legislation is non-allowable depreciation on buildings.

(b) Timing differences

(iii) Timing differences will result in the amount of income tax expense being either greater or less than the income tax payable for the financial periods in which the differences originate and then reverse. Four sets of circumstances give rise to timing differences:
(a) items of revenue included in the determination of pre-tax accounting profit or loss before they are included in taxable income or tax loss, for example, gross profits on instalment sales brought to account for accounting purposes in the financial period of sale but assessable for tax purposes in the financial periods during which the instalments are collected;
(b) expenses deducted in determining taxable income or tax loss before they are deducted in the determination of pre-tax accounting profit or loss, for example, research and development costs deducted for tax purposes as incurred but carried forward in the accounts to be charged against future revenue;
(c) items of revenue included in taxable income or tax loss before they are included in the determination of pre-tax accounting profit or loss, for example, rents or insurance premiums collected in advance and reported for tax purposes in the financial period in which they are received but deferred

for accounting purposes until later financial periods when they are recognised as being earned; and

(d) expenses deducted in the determination of pre-tax accounting profit or loss before they are deducted in the determination of taxable income or tax loss, for example, provisions for guarantees and product warranties, or provision for long service leave made for accounting purposes on an estimated basis in the financial period in which the related revenue is brought to account, but only allowed for tax purposes in later financial periods when payment is made or when the liability becomes certain.

The liability method of tax-effect accounting

(iv) *The liability method (sometimes referred to as the accrual method) is based on the assumption that a provision for deferred income tax arises whenever:*

(a) an item of revenue is recognised in the determination of pre-tax accounting profit or loss before it is included in taxable income or tax loss; or

(b) an expense is deducted in calculating taxable income or tax loss before it is recognised in the determination of pre-tax accounting profit or loss;

and conversely, that an asset in the nature of a future income tax benefit arises whenever:

(c) an item of revenue is included in taxable income or tax loss before it is recognised in the determination of pre-tax accounting profit or loss; or

(d) an expense is recognised in the determination of pre-tax accounting profit or loss before it is deducted in calculating taxable income or tax loss.

(v) *The estimated amounts of this liability and this asset are determined by calculating the difference between income tax expense and income tax payable, using the tax rate or rates that are expected to apply when the underlying timing differences reverse. The estimates are later amended if the expected tax rates change or new taxes are imposed.*

(vi) *The adoption of the liability method thus results in income tax expense being accrued in the same way as any other expense. Where timing differences have the effect of postponing the payment of tax, the liability method results in both the matching of expense with revenue and the bringing to account of the liability for income taxes payable in the future. Timing differences which result in the prepayment of income tax are also brought to account as assets in order to avoid overstating expenses in the financial periods in which the timing differences originate, and understating expenses in the financial periods in which these differences reverse.*

(vii) *Accounts and group accounts prepared using the liability method of tax-effect accounting will at all times show any provision for deferred income tax and any future income tax benefit at the tax rates that, at the time the accounts and group accounts are prepared, are expected to apply when the underlying timing differences reverse. On this basis, provision for deferred income tax and future income tax benefits are generally measured using the current rate of income tax. However, when it is known that a different rate of tax will apply by the time particular timing differences are expected to reverse, the relevant provision for*

intention to change the rate of income tax to another specified rate is normally accepted as adequate evidence that a change to that rate will occur.

Future income tax benefits

(viii) *Tax-effect accounting procedures can be expected to give rise to provision for deferred income tax in respect of timing differences and future income tax benefits in respect of both timing differences and tax losses. Whilst there would appear to be no reason to question the bringing to account of provision for deferred income tax attributable to timing differences and the carrying forward of such a provision under tax-effect accounting procedures, it would appear to be necessary and appropriate to examine the asset which arises on the application of tax-effect accounting procedures to determine whether or not in all cases it is appropriate to carry forward such an asset to future financial periods.*

(ix) *Accounting principles normally require a write-down of assets where they are not expected to realise their carrying amounts. In accordance with these principles, future income tax benefits carried forward as assets are examined to determine whether realisation of the related benefit is assured beyond any reasonable doubt. In considering this matter it should be noted that realisation will take the form of a charge against future pre-tax accounting profit or loss and therefore the ability of a company to earn adequate profits and taxable income in future financial periods must be assured beyond any reasonable doubt if future income tax benefits are to be brought to account as assets. A determination as to the ability of a company to earn a sufficient level of profits in future financial periods will be influenced by whether or not a company has a history of profitable operations and is currently profitable.*

(x) *Where a company incurs a tax loss, significant doubts must arise as to the ability of such a company to realise the related future income tax benefit and in these circumstances it is considered that it would be imprudent to bring to account as an asset the future income tax benefit attributable to the tax loss unless realisation of the benefit is virtually certain. It is considered that this test of virtual certainty will only be met in rare and exceptional cases. However, where a company incurs a tax loss, realisation of the future income tax benefit can, to some extent, be regarded as virtually certain where there is already in existence as a liability, a provision for deferred income tax. The extent to which realisation can be regarded as virtually certain is the extent to which deferred income tax has already been provided in respect of timing differences which will reverse in the financial periods during which the tax loss will remain available as a deduction. In these circumstances, when a loss is incurred, the benefit of the tax loss arising therefrom can be treated as effectively realised (and can be brought to account in the form of a reduction in the provision for deferred income tax) on the basis that the tax provided as a cover against the future reversal of timing differences will not become payable whilst the tax loss remains unrecouped and available as a deduction from future assessable income.*

(xi) *Since it is not appropriate to draw a distinction between:*

(a) the ability of a company which incurs a loss to realise the future income tax benefit attributable to the loss; and

(b) the ability of such a company to realise a future income tax benefit attributable to timing differences;

it would be appropriate in the case of such a company to apply the same test of virtual certainty as to realisation in determining whether the company should bring to account as an asset any future income tax benefit, whether the benefit is

(xii) *Where a company which incurs a tax loss has either not brought to account a future income tax benefit attributable to that loss or has written off future income tax benefits brought forward in relation to timing differences, there would be no reason to preclude such a company from recording such benefits as assets in a later financial period should it return to profitable operations and meet the requirement as to virtual certainty of realisation.*

Revaluations and disposals of depreciable assets

(xiii) *Where a revaluation of an asset which is depreciable for income tax purposes has resulted in an increase in the amount at which that asset is carried in the accounts and group accounts, this increase is depreciated over the remaining useful life of the asset. As the additional depreciation charge is not an allowable deduction for income tax purposes, the revaluation results in a permanent difference in subsequent financial periods between pre-tax accounting profit or loss and taxable income or tax loss which is taken into account in determining the amount of income tax expense.*

(xiv) *Where the amount received on the disposal of a depreciable asset exceeds its depreciated value, a liability for income tax may arise in respect of all or part of the excess. Where an election is made under sub-section 59(2A) of the Income Tax Assessment Act 1936 to reduce the cost, for the purpose of calculating depreciation allowable under this Act, of other units of property by the assessable portion of the excess, that amount is treated as a timing difference.*

Interim accounts and group accounts

(xv) *The calculation of the income tax expense to be shown in interim accounts and group accounts is based on the tax rate expected to be applicable for the full financial year, and reflects the incidence of any permanent differences and timing differences which have been caused by transactions or events during the period covered by the interim accounts and group accounts.*

AASB 1022: Accounting for the Extractive Industries

Introductory Comments by the Technical Editors (I. L-S: Amended CWP 1991)

The following introductory note has been prepared by the Technical Editors and does NOT form part of the approved accounting standard.

Approved accounting standard ASRB 1022: Accounting for the Extractive Industries was approved on 30 October 1989 and is effective for financial years ending on or after 31 December 1989. Unlike earlier ASRB standards this standard has been approved on an interim basis only and will be subject to a further detailed review by the ASRB. The standard was approved following the issue of ASRB Release 416: Consideration by the Accounting Standards Review Board of Accounting Standards AAS 1, 2, 3, 4 and 7 for Interim Approval and Certain Proposed Amendments to such Standards in January 1989. The corresponding AAS standard, AAS 7, was reissued in November 1989 incorporating the changes in ASRB 1022.

Although the power of the ASRB to issue standards under section 266B of the *Companies Code* is limited to companies, other entities may be required by other laws to comply with standards approved by the ASRB under the *Companies Code*. The obligation of members of the Australian Society of Certified Practising Accountants and the Institute of Chartered Accountants in Australia to comply with AAS standards, when there is a corresponding ASRB standard, is explained in the 1990 reissue APS 1 "Conformity with Statements of Accounting Concepts and Accounting Standards", as being limited to reporting entities *other than* those "required by legislation, ministerial directive or other government authority to comply with applicable Approved Accounting Standards" [paragraphs 6 and 9]. This policy change was announced on 30 May 1989 and was immediately effective.

In July 1991, the Australian Accounting Standards Board issued Accounting Standard AASB 1025: Application of the Reporting Entity Concept and Other Amendments. Notice of the approval of this Standard was published in the Commonwealth of Australia Gazette on 23 August 1991. The Standard applies to financial years ending on or after 30 June 1992. Subsection 285(3) of the Corporations Law allows directors of a company to elect in writing that a Standard made under section 32 of the Corporations Act 1989 which has not yet come into operation (i.e., does not apply to the particular financial year, apart from sub-section (4)) shall apply to the financial year.

The principal objective of AASB 1025 is to put into place in all ASRB Standards the AASB's policies concerning the reporting entity concept, the application of materiality, interpretation provisions and transitional provisions. In respect of ASRB 1022, amendments are made to Citation (1022.00), Application (1022.02), Interpretation (1022.04), Materiality (1022.05), Definitions (1022.06) and Transitional (1022.80) clauses.

End of Introductory Comments by the Technical Editors

Citation

.00 This standard, with the exception of the words shown in italics, may be cited as Approved Accounting Standard ASRB 1022: Accounting for the Extractive Industries.

Endorsed explanatory material

.01 The words shown in italics do not form part of the standard. They are published with the standard as an aid to its interpretation.

Explanatory material is set out in two ways:
(a) immediately after certain of the requirements; and
(b) as a commentary at the end of the standard.

Application

.02 This standard:
(a) applies to each company in relation to its first financial period that ends on or after 31 December 1989, and in relation to subsequent financial periods of the company; and
(b) does not apply to resources of a regenerative nature.

Notice of the approval of this standard was published in the Commonwealth of

In all cases, compliance with a requirement of a standard is subject to any relevant provision of the Code.

Statement of purpose

.03 The purpose of this standard is:
(a) to specify the accounting treatments for particular transactions and events relating to extractive industry operations; and
(b) to require disclosure, in the accounts and group accounts, of information relating to extractive industry operations;
so that users entitled to rely on the accounts or group accounts are provided with information about the extractive industry operations of the company or group of companies which is necessary for an understanding of the financial position, performance, and financing and investing of the company or group of companies.

Interpretation

.04 Where there is a conflict between the interpretation of a provision of this standard and the statement of purpose, the statement of purpose shall prevail.

Application of materiality: Extractive Industries

.05 Information about extractive industry operations is material if its omission, non-disclosure or mis-statement is likely to affect economic decisions or other evaluations made by users entitled to rely on the accounts or group accounts.

Definitions

.06 In this standard unless the contrary intention appears:

"exploration" means the search for a mineral deposit or an oil or natural gas field which appears capable of commercial exploitation by an extractive operation and includes topographical, geological, geochemical and geophysical studies and exploratory drilling;

"evaluation" means the determination of the technical feasibility and commercial viability of a particular prospect and includes determination of the volume and grade of the deposit or field, examination and testing of extraction methods and metallurgical or treatment processes, surveys of transportation and infrastructure requirements, and market and finance studies;

"development" means the establishment of access to the deposit or field and other preparation for commercial production and includes shafts, underground drives and permanent excavations, roads and tunnels, advance removal of overburden and waste rock, and drilling of oil or natural gas wells;

"construction" means the establishment and commissioning of facilities including infrastructure, buildings, machinery and equipment for the extraction, treatment and transportation of product from the deposit or field;

"production" means the day-to-day activities directed to obtaining saleable product from the deposit or field on a commercial scale and includes extraction and any processing prior to sale;

Exploration, evaluation, development, construction and production are terms used to describe the different phases of operations and, in practice, more than one phase can occur at the same time in the same area of interest.

"area of interest" means an individual geological area which is considered to constitute a favourable environment for the presence of a mineral deposit or an oil or natural gas field, or has been proved to contain such a deposit or field;

"brought to account" means recognised in the accounts or group accounts, otherwise than by way of note;

"Code" means, where this standard applies in –
(a) the Australian Capital Territory – the Companies Act 1981, and the regulations made under that Act; or
(b) a State or the Northern Territory – the Companies Code of a State or the Northern Territory, as defined in the Companies (Application of Laws) Act of that State or the Northern Territory and the regulations applying under that Code;

"economically recoverable reserves" means the estimated quantity of product in an area of interest, which can be expected to be profitably extracted, processed and sold under current and foreseeable economic conditions;

"financial period" means, in relation to –
(a) accounts of a corporation referred to in paragraph 158(5)(b) of the Code or, where that corporation is a holding company, the group accounts prepared in accordance with that paragraph – the period of six months after the end of the financial year of that corporation;
(b) a set of consolidated accounts of a borrowing corporation and each guarantor corporation referred to in paragraph 158(6)(b) of the Code – the period of six months after the end of the financial year of the borrowing corporation; or
(c) the accounts or group accounts of any other corporation – the financial year of the corporation; and

"life of the area of interest" means the period of time over which the economically recoverable reserves in the area of interest can be expected to be depleted, or the period of time for which, under the terms of a lease or permit, extractive operations in the area of interest may continue, whichever is the shorter.

Relevant provisions of the Code include:

Sub-section 266E(1): "Unless the contrary intention appears in the accounting standard, an expression used in an approved accounting standard has the same meaning as the expression has in this Part [Part VI]".

Sub-section 5(1): definition of "financial year".

Sub-section 266(1): definition of "accounts", "group accounts" and "group of companies".

Costs arising from exploration, evaluation, development and construction: carry forward or write off

.10 Each area of interest shall be considered separately when deciding whether, and to what extent, costs arising from exploration, evaluation and development are carried forward or written off.

.11 Costs arising from exploration and evaluation related to an area of interest shall be written off as incurred, except that they may be carried forward provided that rights to tenure of the area of interest are current and provided further that at least one of the following conditions is met:
(a) such costs are expected to be recouped through successful development and exploitation of the area of interest, or alternatively, by its sale; and
(b) exploration and evaluation activities in the area of interest have not at balance date reached a stage which permits a reasonable assessment of the existence or otherwise of economically recoverable reserves, and active and significant operations in, or in relation to, the area of interest are continuing.

.12 Costs arising from development related to an area of interest shall be carried forward to the extent that such costs, together with any costs arising from exploration and evaluation carried forward in respect of the area of interest, are expected to be recouped through successful exploitation of the area of interest, or alternatively, by its sale.

.13 Construction costs which represent the costs of facilities in the nature of depreciable assets shall be accounted for in accordance with Approved Accounting Standard ASRB 1021: Depreciation of Non-Current Assets. Construction costs which are not represented by depreciable assets shall be accounted for in the same way as development costs.

.14 When development continues in an area of interest after the commencement of production in order to gain additional access to, or additional information about the extent of, the economically recoverable reserves, the respective development costs shall be carried forward, subject to clause .30.

.15 Costs carried forward in respect of an area of interest subsequently abandoned shall be written off in the financial period in which the decision to abandon is made.

For endorsed comment see:

Paragraphs (i) to (iv): Costs arising from exploration, evaluation, development and construction: carry forward or write off

Accumulation of costs and revenues arising from exploration, evaluation, development and construction

.20 Costs, both direct and indirect, arising from exploration, evaluation and development activities and specifically related to an area of interest, shall be allocated to that area of interest.

.21 General and administrative costs shall be allocated to particular areas of interest only to the extent that they can be related directly to operational activities in those areas. In all other cases, they shall be written off as expenses as they are incurred.

.22 Amounts (including subsidies) received during the exploration, evaluation, development or construction phases which are in the nature of reimbursement or recoupment of previously incurred costs shall be offset against such costs.

.23 Costs shall continue to be accumulated in respect of an area of interest notwithstanding that its size may contract as operations progress from exploration through evaluation, development, construction and production. When two or more separate and distinct development, construction and production operations arise within the one area of interest, exploration and evaluation costs allocated to the area shall be apportioned equitably between such operations, and each operation shall be accounted for separately from then on.

For endorsed comment see:

Paragraphs (v) to (ix): Accumulation of costs and revenues arising from exploration, evaluation, development and construction

Amortisation of exploration, evaluation, development and construction costs carried forward

.30 Exploration, evaluation and development costs carried forward shall be amortised over the life of the area of interest to which they relate. Amortisation charges shall be determined on a production output basis, unless, in the particular circumstances, a time basis is more appropriate. The basis of amortisation adopted shall be applied consistently from financial period to financial period. The rate of amortisation shall not lag behind the rate of depletion of the economically recoverable reserves in the area of interest.

.31 In calculating amortisation charges, economically recoverable reserves and any development costs still to be incurred shall be reassessed annually.

.32 Amortisation charges shall be treated as forming part of the cost of production.

.33 To the extent that costs carried forward have been fully amortised and relate to facilities physically abandoned or of no further use, or to overburden and waste rock removal in areas worked out, those costs and the related accumulated amortisation shall be written off the appropriate asset and accumulated amortisation accounts.

For endorsed comment see:

Paragraphs (x) to (xiv): Amortisation of exploration, evaluation, development and construction costs carried forward

Restoration costs

.40 Where there is an expectation that an area of interest will be restored:
(a) the cost of restoration work necessitated by exploration, evaluation or development activities prior to commencement of production shall be

provided for at the time of such activities and shall form part of the cost of the respective phase(s) of operations
(b) the cost of restoration work necessitated by any activities after the commencement of production shall be provided for during production and shall be treated as a cost of production; and
(c) in determining the amount to be provided in any one financial period, the balance of the provision for restoration costs, after charging against it actual costs incurred to date, shall be reassessed in the light of expected further costs.

For endorsed comment see:

Paragraph (xv): Restoration costs

Inventories

.50 Inventories shall be brought to account at the earliest stage at which materials representing, or expected to be converted by further processing to, saleable product can be measured with reliability and the quantities of such materials can be determined by physical measurement or reliable estimate.

For endorsed comment see:

Paragraphs (xvi) and (xvii): Inventories

Sales revenue

.60 Sales revenue shall not be brought to account until the product is in the form in which it is to be sold (that is, no further processing needs to be carried out by, or on behalf of, the vendor) and:
(a) the property in the product has passed to the purchaser; or
(b) without such passing of property, the product has moved finally from the physical control of the vendor pursuant to an enforceable sales contract; it can be established that the product is for the purchaser's account pursuant to the sales contract; and the vendor, in the event of loss or damage, would have a claim for the sale proceeds against a third party such as a carrier or insurer.

.61 Where it is probable that the proceeds from the sale of product will vary because the determination of final quantities and/or sales prices is dependent upon assays or other tests after delivery, such proceeds shall be brought to account using the most reliable available estimates of quantities and sales prices.

.62 Proceeds from the sale of product obtained from activities in the exploration, evaluation or development phases shall be accounted for in the same manner as sales of product obtained during the production phase. The estimated cost of producing the quantities concerned shall be deducted from the accumulated costs of such activities and be treated as the cost of product sold.

Disclosures in the accounts and group accounts

.70 The following shall, if material, be separately disclosed in the profit and loss account by way of note or otherwise:
(a) the aggregate amount of exploration, evaluation or development costs incurred and written off in the financial period other than by way of amortisation;
(b) the amount charged in the financial period for amortisation of exploration, evaluation or development costs carried forward, irrespective of how such costs are classified or described in the balance sheet; and
(c) government royalties paid and payable on sales or production for the financial period.

.71 The following shall, if material, be separately disclosed in the balance sheet by way of note or otherwise:
(a) costs carried forward in respect of areas of interest still in the exploration or evaluation phases, with an explanation that ultimate recoupment of such costs is dependent on successful development and commercial exploitation, or alternatively, sale of the respective areas;
(b) costs carried forward in respect of areas of interest in the development phase in which production has not yet commenced, with an explanation that amortisation is not being charged pending the commencement of production; and
(c) costs carried forward in respect of areas of interest in which production has commenced, with accumulated amortisation charges being shown separately as a deduction.

.72 Government subsidies (received and receivable) brought to account in the financial period shall, if material, be separately disclosed in the accounts and group accounts with details, where applicable, of the circumstances in which any such subsidies may become repayable.

Transitional provision

.80 Where the accounting treatments required by this standard are not already being applied at the date this standard is first applied they shall be applied retrospectively. Where this gives rise to initial adjustments, the net amount of these adjustments shall, in accordance with clause .11 of Approved Accounting Standard ASRB 1018: Profit and Loss Accounts, be adjusted against retained profits or accumulated losses at the beginning of the financial period in which this standard is first applied.

COMMENTARY

Costs arising from exploration, evaluation, development and construction: carry forward or write off

(i) In the extractive industries, economically recoverable reserves are the ultimate source of revenue. Costs incurred in the exploration phase are directed towards the discovery of such reserves, while costs in the evaluation phase are directed towards proving the reserves. Costs incurred during the development and construction phases have the purpose of preparing for effective exploitation of the reserves. Each unit of product sold needs to bear its proportionate share of exploration, evaluation, development and construction costs. To this end, it may be necessary to carry forward exploration, evaluation, development and construction costs for subsequent amortisation or depreciation during the production phase. On the other hand, if exploration and evaluation are unsuccessful, this results in a loss which cannot be reversed. The loss needs to be recognised in the accounts and group accounts, no matter whether the funds

for those activities were originally provided out of subscribed capital (as, for example, with a newly formed exploration company), or out of earnings (as, for example, with a company engaged in production which at the same time continues further exploration and evaluation).

(ii) *The method required to be used by this standard for determining whether costs arising from exploration, evaluation, development and construction are carried forward or written off is known as the "area of interest method". It permits, subject to certain constraints, the carrying forward of exploration and evaluation costs, so as to achieve as far as possible a proper matching of revenue and related expenses. In most cases, the area of interest will comprise a single mine or deposit or a separate oil or gas field. For any one area of interest, the exploration and evaluation costs are carried forward so long as a reasonable probability of success in that area exists. If the search is unsuccessful or evaluation produces a negative result, the costs associated with the area are written off.*

(iii) *In determining whether active and significant operations in, or in relation to, the area of interest are continuing, a temporary interruption of operations because of seasonal or climatic factors or of governmental intervention is not viewed as a cessation of operations.*

(iv) *During exploration and, to some degree also, during evaluation, an area may be difficult to delimit. In the development, construction and production phases, the area will have been delimited as the mineral deposit or the oil or natural gas field constituting the economically recoverable reserves.*

Accumulation of costs and revenues arising from exploration, evaluation, development and construction

(v) *All direct and indirect costs incurred during the exploration, evaluation, development and construction phases, and specifically identifiable with an area of interest, are allocated to that area of interest. In making this allocation, no distinction is drawn between costs incurred within the company or group of companies and the cost of services performed by outside contractors or consultants on behalf of the company or group of companies. Indirect costs would include, inter alia, charges for depreciation of equipment used in exploration, evaluation, development and construction activities.*

(vi) *The costs of acquiring leases or other rights of tenure in the area of interest are classified as exploration, evaluation or development costs depending on the stage in which such leases or other rights are acquired.*

(vii) *General and administrative costs related only indirectly to operational activities (such as directors' fees, secretarial and share registry expenses, and salaries and other expenses of general management), are treated as expenses of the financial period in which they are incurred. Accordingly, they are not apportioned to areas of interest.*

(viii) *Consideration needs to be given to whether revenue received during the exploration, evaluation, development and construction phases is brought to account immediately in the profit and loss account or whether it is in the first place to be deducted from the respective exploration, evaluation, development and construction costs. In this context it is necessary to distinguish between sales revenue and revenue which, directly or indirectly, represents a recoupment of exploration, evaluation, development and construction costs. In the case of*

the latter, a deduction from the respective exploration, evaluation, development and construction costs clearly is the appropriate accounting treatment.

(ix) *It is common for an area of interest to contract in size progressively, as exploration and evaluation lead towards the identification of a mineral deposit or an oil or natural gas field, which may prove to contain economically recoverable reserves. In consequence, the question arises whether all exploration, evaluation, development and construction costs incurred in relation to the initial area of interest ought to be accumulated against that area without regard for the contraction of its size, or whether such costs ought to be apportioned between those parts of the area which continue to be the subject of activities, and those parts which have been abandoned. For the purposes of this standard the first alternative is required.*

Amortisation of exploration, evaluation, development and construction costs carried forward

(x) *Exploration, evaluation and development costs carried forward need to be charged, by appropriate amortisation, against revenue earned during the production phase. The costs of facilities established during the construction phase which are in the nature of depreciable assets, will be written off by means of depreciation charges made over the useful lives of the assets concerned. It follows from Approved Accounting Standard ASRB 1021: Depreciation of Non-Current Assets that the useful lives are not greater than the expected life of the area of interest for which they are acquired except where any such assets may be transferred to some other area of interest or may have further use not necessarily connected with any particular area of interest.*

(xi) *Amortisation based on production output for costs carried forward in respect of an area of interest is determined by apportioning such costs in the ratio of the production output for the financial period to the total of this output and the economically recoverable reserves at the end of the financial period.*

(xii) *Amortisation based on time for costs carried forward in respect of an area of interest is related to the expiration of time permitted or contemplated for extraction of the economically recoverable reserves. This basis is suitable where production is limited by time, as it would be under a fixed-period tenure of the area of interest. It may also be appropriate, where reserves are so large as to approach an infinite life, to adopt some arbitrary time limit for the purposes of amortisation. However, in most cases, use of the production output basis is most appropriate, because it takes into account variations in the production rate.*

(xiii) *Whichever basis of amortisation is used, it is necessary to review regularly the latest estimate of economically recoverable reserves. In determining such reserves, due regard needs to be given to:*

- *(a)* *security of tenure of the area of interest (including special conditions attaching to leases or permits);*
- *(b)* *the possibility that technological developments or discoveries may make the product obsolete or uneconomical at some future time;*
- *(c)* *changes in technology, market or economic conditions affecting either sales prices or production costs, with a consequent impact on cut-off grades; and*
- *(d)* *likely future changes in factors such as recovery rate, dilution rate, and production efficiencies during extraction, processing and transportation of products.*

Because some of the factors set out above may act as future constraints, it will often be advisable to put an arbitrary limit on the economically recoverable reserves used in amortisation calculations.

(xiv) *The amount of development costs on which amortisation calculations are based, may need to include the estimated future development costs expected to be incurred in respect of the area of interest to which the development costs relate.*

Restoration costs

(xv) *It is frequently a condition of a permit to engage in extractive operations that the area covered by the permit be restored after the cessation of operations. In any case, it may be policy of the company involved in the operations to carry out such restoration even if there is no legal obligation to do so. Restoration costs that it is expected will be incurred are provided for as part of the cost of the exploration, evaluation, development, construction or production phases that give rise to the need for restoration.*

Inventories

(xvi) *In the production phase of extractive operations materials representing or expected to be converted by further processing to saleable product can accumulate at various stages, and it must be decided if and when such materials ought to be brought to account as inventories. For example, in mining, broken ore can collect at the point where ore-breaking first occurs (underground or in the open-cut pit) and on the surface prior to further processing or dispatch; partly-processed product exists during processing (crushing, screening, concentration, beneficiating, smelting or refining); saleable product may exist after processing, but before ultimate sale. Similarly, oil and natural gas may be present in bulk storage at or adjacent to the well-head, and/or in pipelines en route to storage, treatment, or refining facilities.*

(xvii) *Some companies adopt the practice of bringing to account, as inventories, only product in a saleable form. This practice has its origin in difficulties in establishing accurate inventory quantities during the early stages of production. Such difficulties can arise: because not all the physical dimensions are accessible, thus making precise calculation or measurement impossible; from inaccuracies inherent in assay, moisture or specific gravity samples; or in continuous process operations, where quantities in circuit cannot be properly determined.*

PROBABILITY EXPRESSION RESEARCH INSTRUMENT

GROUP 8

GENERAL INSTRUCTIONS

The following research instrument is gathering information from experienced auditors about an expression currently used in an Australian accounting standard. The accounting standard has been placed in the appendix should you need to refer to it. The research is concerned with judgements that you make in your working environment and we would like you to provide answers that reflect your judgements in the "real world" environment.

Part A contains one question on the numerical level of probability that you associate with a particular probability expression.

Part B contains four real (though simplified) cases and for each case you are asked to make three judgements. Even if you feel that there is not enough information please endeavour to work with the information available to you.

Part C contains one question dealing with your beliefs about the meaning of a particular probability expression.

Finally, Part D contains some general questions and some questions concerning biographical details.

You should complete the questionnaire without consulting your peers but please speak with the person coordinating this research if you have <u>any</u> queries. Once you have answered a question move on to the next question and do not go back and change any previous answers.

We appreciate your participation in this research and stress that there are **no "trick" questions** and **no right or wrong answers** to the questions being asked.

PART A

AASB 1020 clause .12 states that future income tax benefits attributable to timing differences should not be recognised in the balance sheet unless it is assured beyond any reasonable doubt that these benefits will be realised.

What is the minimum level of numerical probability (between 0 - 100% inclusive) that you believe to be equal to the expression "assured beyond any reasonable doubt"?

"Assured beyond any reasonable doubt" means at least - _____%

PART B

CASE 1

Victoria Ltd is a publicly listed company operating in Australia in the construction industry. Its management has not changed significantly in the last five years and over this period the company's after tax profits have been average by industry standards. The company will report a small operating loss in the current financial year ended 30 June 19X4. The directors have been concerned by loss of market share to recent competition from internationally based competitors and they hope that this problem will be rectified by the appointment of personnel who had, up until recently, previously held senior positions with the international competitors. The company is not in a tax loss situation nor carrying forward any tax losses. The company's total assets would cover its liabilities and shareholder funds if the company were to be liquidated. The company's share price has facilitated only small capital gains and it did not pay a dividend in the current financial year. The predictions for future economic, industrial and legislative conditions in Australia are the same as those that you are currently applying in your working environment. The Australian Securities Commission has recently informed the directors of Victoria Ltd that the company's accounting policies concerning the recognition and valuation of some of its assets are under investigation. A change in these policies will have little or no effect on the company's cashflows.

REQUIRED

Assume you are the auditor for Victoria Ltd in the current financial year ended 30 June 19X4 and you are assessing the situation with respect to carrying forward the future income tax benefits attributable to timing differences.

1. Given the facts of the case, how confident are you that the company will realise the future income tax benefits if they are carried forward?

   Please express your answer in terms of a numerical probability between 0 - 100% (inclusive). ____%

2. What is the minimum level of numerical probability (between 0 - 100% inclusive) that you believe to be equal to the phrase "assured beyond any reasonable doubt"?

   "Assured beyond any reasonable doubt" means at least - ____%

3. Would you recognise the future income tax benefits as an asset on the balance sheet for the year ended 30 June 19X4?

   Circle your response: YES / NO

CASE 2

Quadstrad Ltd was incorporated in 1956. In July 1992 it became a publicly listed company on the Sydney stock exchange. Its principal activities are thoroughbred horse breeding, real estate development and it has significant interests in the retail motor vehicle industry. The management of the company has not changed significantly in the past ten years and there is no reason to expect any change in the future. The company has consistently derived sound profits (despite a severe recession) over the past four years and the share price has reflected great confidence in the company's ability to derive future profits. The company's total asset/total liability ratio is far better than the industry average and the company has never sustained a tax loss. In the current financial year ending 30 June 1994 the company's profits were again sound and above the industry average. The predictions for future economic, industrial and legislative conditions in Australia are the same as those that you are currently applying in your working environment. The Australian Securities Commission has recently informed the directors of Quadstrad Ltd that the company's accounting policies concerning the recognition and valuation of some of its assets are under investigation. A change in these policies will have little or no effect on the company's cashflows.

REQUIRED

Assume you are the auditor for Quadstrad Ltd in the current financial year ended 30 June 1994 and you are assessing the situation with respect to carrying forward future income tax benefits attributable to timing differences.

1. Given the facts of the case, how confident are you that the company will realise the future income tax benefits if they are carried forward?

   Please express your answer in terms of a numerical probability between 0 - 100% (inclusive). ____%

2. What is the minimum level of numerical probability (between 0 - 100% inclusive) that you believe to be equal to the phrase "assured beyond any reasonable doubt"?

   "Assured beyond any reasonable doubt" means at least - ____%

3. Would you recognise the future income tax benefits as an asset on the balance sheet for the year ended 30 June 19X4?

   Circle your response: YES / NO

CASE 3

Palcec Ltd is a publicly listed company. It is recognised as being one of the market leaders in the manufacture of cement and related products in Australia. Palcec Ltd has, in the last ten years, generated profits with an average annual growth rate of 14% however in the last three years Palcec Ltd's profits have averaged a growth rate of 3%. The directors of the company have described the downturn in the last three year's results as due to the economic climate (which was in a severe recession) and encouragement by state governments to see vacant properties given alternative uses (e.g. inner city apartments). The company's management changed significantly four years ago but has not changed since. In the current financial year (30/6/X4) industrial problems contributed to the company's profits being slightly less than the previous year. These industrial problems have all been resolved. The company has never been in a tax loss situation and its assets, if disposed of today, would easily cover the claims of both creditors and shareholders. The predictions for future economic, industrial and legislative conditions in Australia are the same as those that you are currently applying in your working environment. The Australian Securities Commission has recently informed the directors of Palcec Ltd that the company's accounting policies concerning the recognition and valuation of some of its assets are under investigation. A change in these policies will have little or no effect on the company's cashflows.

REQUIRED

Assume you are the auditor for Palcec Ltd in the current financial year ended 30 June 19X4 and you are assessing the situation with respect to carrying forward the future income tax benefits attributable to timing differences.

1. Given the facts of the case, how confident are you that the company will realise the future income tax benefits if they are carried forward?

   Please express your answer in terms of a numerical probability between 0 - 100% (inclusive). ____%

2. What is the minimum level of numerical probability (between 0 - 100% inclusive) that you believe to be equal to the phrase "assured beyond any reasonable doubt"?

   "Assured beyond any reasonable doubt" means at least - ____%

3. Would you recognise the future income tax benefits as an asset on the balance sheet for the year ended 30 June 19X4?

   Circle your response: YES / NO

CASE 4

Vaughan Ltd is a publicly listed company which specialises in the manufacture of steel castings and related products in Australia. In the last three years Vaughan Ltd's after tax profits have been small by industry standards and the company will report an operating loss in the current financial year ended 30 June 19X4. The directors have described these results as due to the economic climate (which was in a severe recession), the costs incurred in shifting premises and aggressive competition. In addition the company faced industrial problems most of which have now been resolved. The directors hope that the remaining problems will be resolved with the aid of recently appointed industrial relations personnel. The company is not in a tax loss situation nor carrying forward any tax losses. During the current financial year Vaughan Ltd completed a contract which provided 15% of its total revenue for the year. If this contract cannot be replaced with a similar contract(s) in the next financial year Vaughan Ltd will record a tax loss. The company's total asset/total liability ratio is approximately 1.5 : 1. The company's share price has facilitated no capital gains in the past year and it did not pay a dividend in the current financial year. The predictions for future economic, industrial and legislative conditions in Australia are the same as those that you are currently applying in your working environment. The Australian Securities Commission has recently informed the directors of Vaughan Ltd that the company's accounting policies concerning the recognition and valuation of some of its assets are under investigation. A change in these policies will have little or no effect on the company's cashflows.

REQUIRED

Assume you are the auditor for Vaughan Ltd in the current financial year ended 30 June 19X4 and you are assessing the situation with respect to carrying forward the future income tax benefits attributable to timing differences.

1. Given the facts of the case how confident are you that the company will realise the future income tax benefits if they are carried forward?

   Please express your answer in terms of a numerical probability between 0 - 100% (inclusive). ____%

2. What is the minimum level of numerical probability (between 0 - 100% inclusive) that you believe to be equal to the phrase "assured beyond any reasonable doubt"?

   "Assured beyond any reasonable doubt" means at least - ____%

3. Would you recognise the future income tax benefits as an asset on the balance sheet for the year ended 30 June 19X4?

   Circle your response: YES / NO

PART C

In this part of the questionnaire we are interested in your opinions on a particular probability expression which is used in an Australian accounting standard. Though you may feel it is difficult to generalise, we would like you to express your opinions as accurately as you can. As with your responses in Part A and B **there are no right or wrong answers**.

We want you to describe your opinions about a particular probability expression using certain scales (known as "adjectival pairings" e.g. CONTROLLABLE : UNCONTROLLABLE or GOOD : BAD). The following instructions are to be used in completing the questionnaire:

1. Please indicate your response to each scale by placing a cross (X) in the space that best describes your response.

   For example, if you feel that the probability expression is a concept that tends to be something which is controllable indicate this as below:

   CONTROLLABLE : X : _ : _ : _ : _ : _ : UNCONTROLLABLE

   If on the other hand you feel that the probability expression is a concept that tends to be uncontrollable, indicate this as below:

   CONTROLLABLE : _ : _ : _ : _ : _ : _ : X : UNCONTROLLABLE

   If think the scale (adjectival pairing) is irrelevant to describing the probability expression then place a cross (X) on the mid-point of the scale as indicated below:

   CONTROLLABLE : _ : _ : _ : X : _ : _ : _ : UNCONTROLLABLE

2. If the probability expression has no meaning to you (i.e. you have no idea what the expression means) then **do not** place a cross on **any** of the scales. Instead place a cross (X) in the box labelled "NO MEANING".

Turn the page to complete this part of the questionnaire.

"AASB 1020 Accounting For Income Tax (Tax-Effect Accounting) Accounting" clause .12 indicates that it must be "assured beyond any reasonable doubt" that future income tax benefits, attributable to timing differences, will be realised before they can be recognised as an asset on the body of the balance sheet. With respect to recognising future income tax benefits on the balance sheet the phrase "assured beyond any reasonable doubt" tends to be:

EXACT : _ : _ : _ : _ : _ : _ : ESTIMATED

BAD : _ : _ : _ : _ : _ : _ : GOOD

MEASURABLE : _ : _ : _ : _ : _ : _ : UNMEASURABLE

NECESSARY : _ : _ : _ : _ : _ : _ : UNNECESSARY

PLANNED : _ : _ : _ : _ : _ : _ : UNPLANNED

OBJECTIVE : _ : _ : _ : _ : _ : _ : SUBJECTIVE

TANGIBLE : _ : _ : _ : _ : _ : _ : INTANGIBLE

STRONG : _ : _ : _ : _ : _ : _ : WEAK

INDIRECT : _ : _ : _ : _ : _ : _ : DIRECT

VARIABLE : _ : _ : _ : _ : _ : _ : CONSTANT

SAFE : _ : _ : _ : _ : _ : _ : RISKY

COMPLETE : _ : _ : _ : _ : _ : _ : INCOMPLETE

DISCRETIONARY : _ : _ : _ : _ : _ : _ : REQUIRED

REAL : _ : _ : _ : _ : _ : _ : IMAGINARY

BENEFICIAL : _ : _ : _ : _ : _ : _ : ADVERSE

TEMPORARY : _ : _ : _ : _ : _ : _ : PERMANENT

CONTROLLABLE : _ : _ : _ : _ : _ : _ : UNCONTROLLABLE

UNEXPECTED : _ : _ : _ : _ : _ : _ : EXPECTED

PASSIVE : _ : _ : _ : _ : _ : _ : ACTIVE

STATIC : _ : _ : _ : _ : _ : _ : DYNAMIC

LONG TERM : _ : _ : _ : _ : _ : _ : SHORT TERM

INFLEXIBLE : _ : _ : _ : _ : _ : _ : FLEXIBLE

☐The expression has NO MEANING for me.

PART D

1. Did you understand the question that was asked in Part A of this questionnaire?

   Circle the correct response: YES / NO

2. If your answer to question 1 was "NO" please explain below. If your answer was "YES" to question 1 proceed to question 3.

   _____

   _____

   _____

   _____

   _____

3. Did you understand all the questions asked in Part B of this questionnaire?

   Circle the correct response: YES / NO

4. If your answer to question 3 was "NO" please explain below. If your answer was "YES" to question 3 proceed to question 5.

   _____

   _____

   _____

   _____

   _____

5. In Part B of this questionnaire you were asked to make judgements in the context of four real though simplified cases. Due to the nature of this research the cases had to be brief and simplified. For example, information about your own time and budget constraints, cashflow forecasts and client budgets, first hand knowledge of the company and other issues that you would normally face in your daily working environment could not be provided. The following question is not asking about these matters or about the quality of the information you were provided with. The following question is asking for your opinion about the three decisions that you were asked to make in each of the cases. When answering the question place a cross (X) in the space which best reflects your answer.

Would you agree or disagree with the following statement:

Although the information in the cases was brief and simplified, the actual decisions that you were asked to make in Part B are similar to the decisions that you make in your working environment.

AGREE I : : : : : : I DISAGREE

6. Did you understand the question asked in Part C of this questionnaire?

Circle the correct response: YES / NO

7. If your answer to question 6 was "NO" please explain below. If your answer was "YES" to question 6 proceed to question 8.

_____

_____

_____

_____

_____

8. What is the minimum numerical level of probability (with respect to the realisation of future economic benefits) that you think should be reached before you would recognise an asset on the balance sheet?

The asset recognition probability should be at least: _____%

9. What is the minimum numerical level of probability (with respect to incurring future economic losses) that you think should be reached before you would recognise a liability on the balance sheet?

The liability recognition probability should be at least: _____%

10. Would your answer to questions 8 and/or 9 change depending upon the facts of the case?

Circle the correct response: YES / NO

Briefly explain:

_____

_____

_____

_____

_____

11. How many years have you worked as an auditor?: _____yrs.

12. Is there anything that you wish to comment on in regard to this questionnaire?:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Many thanks - your participation is greatly appreciated.

APPENDIX

AASB 1020: Accounting for Income Tax (Tax-Effect Accounting)

Introductory Comments by the Technical Editors (I. L-S: Amended CWP 1991)

The following introductory note has been prepared by the Technical Editors and does NOT form part of the approved accounting standard.

Approved accounting standard ASRB 1020: Accounting for Income Tax (Tax-effect Accounting) was approved on 30 October 1989 and is effective for financial years ending on or after 31 December 1989. Unlike earlier ASRB standards this standard has been approved on an interim basis only and will be subject to a further detailed review by the ASRB. The standard was approved following the issue of ASRB Release 416: Consideration by the Accounting Standards Review Board of Accounting Standards AAS 1, 2, 3, 4 and 7 for Interim Approval and Certain Proposed Amendments to such Standards in January 1989. The provisions relating to the treatment of changes in income tax rates foreshadowed in ASRB Release 416 have been implemented. The corresponding AAS standard, AAS 3, was reissued in November 1989 incorporating the changes in ASRB 1020. Guidance on the implementation of the AAS 3 is contained in AAG 2 "Accounting for a Change in the Rate of Company Income Tax" [December 1985], AAG 4 "Accounting for the Intra-group Transfer of Tax Losses" [December 1985], AAG 6 "Accounting for the Fringe Benefits Tax" [July 1987], AAG 7 "Accounting Implications of Dividend Imputation" [August 1987] and AAG 8 "Accounting for the Capital Gains Tax" [September 1987]. The subsequent reissue of AAS 3 has not impaired the authority of the guidance provided in these releases, but it should be noted that neither AAG 4, or AAG 6, nor AAG 8 has been given express approval by the ASRB.

Although the power of the ASRB to issue standards under section 266B of the *Companies Code* is limited to companies, other entities may be required by other laws to comply with standards approved by the ASRB under the *Companies Code*. The obligation of members of the Australian Society of Certified Practising Accountants and the Institute of Chartered Accountants in Australia to comply with AAS standards, when there is a corresponding ASRB standard, is explained in the 1990 reissue APS 1 "Conformity with Statements of Accounting Concepts and Accounting Standards", as being limited to reporting entities *other than* those "required by legislation, ministerial directive or other government authority to comply with applicable Approved Accounting Standards" [paragraphs 6 and 9]. This policy change was announced on 30 May 1989 and was immediately effective.

In July 1991, the Australian Accounting Standards Board issued Accounting Standard AASB 1025: Application of the Reporting Entity Concept and Other Amendments. Notice of the approval of this Standard was published in the Commonwealth of Australia Gazette on 23 August 1991. The Standard applies to financial years ending on or after 30 June 1992. Subsection 285(3) of the Corporations Law allows directors of a company to elect in writing that a Standard made under section 32 of the Corporations Act 1989 which has not yet come into operation (i.e., does not apply to the particular financial year, apart from sub-section (4)) shall apply to the financial year.

The principal objective of AASB 1025 is to put into place in all ASRB Standards the AASB's policies concerning the reporting entity concept, the application of materiality, interpretation provisions and transitional provisions. In respect of ASRB 1020, amendments are made to Citation (1020.00), Application (1020.02), Interpretation (1020.04), Materiality (1020.05), Definitions (1020.06), and Transitional (1020.50) clauses.

End of Introductory Comments by the Technical Editors

Citation

.00 This standard, with the exception of the words shown in italics, may be cited as Approved Accounting Standard ASRB 1020: Accounting for Income Tax (Tax-effect Accounting).

Endorsed explanatory material

.01 The words shown in italics do not form part of the standard. They are published with the standard as an aid to its interpretation.

Explanatory material is set out in two ways:
(a) immediately after certain of the requirements; and
(b) as a commentary at the end of the standard.

Application

.02 This standard applies to each company in relation to its first financial period that ends on or after 31 December 1989, and in relation to subsequent financial periods of the company.

Notice of approval of this standard was published in the Commonwealth of Australia Gazette on 30 October 1989.

In all cases, compliance with a requirement of a standard is subject to any relevant provision of the Code.

Statement of purpose

.03 The purpose of this standard is:
(a) to specify the method for determining income tax expense, provision for income tax, provision for deferred income tax and future income tax benefit; and
(b) to require disclosure in the accounts and group accounts of information in relation to income tax expense, provision for income tax, provision for deferred income tax and future income tax benefit;
so that users entitled to rely on the accounts or group accounts are provided with information on the impact of tax on the income of companies under provisions of the Australian Income Tax Assessment Act 1936 (and of any applicable foreign tax legislation) which is necessary for an understanding of the financial position, performance, and financing and investing of the company or group of companies.

Interpretation

.04 Where there is a conflict between the interpretation of a provision of this standard and the statement of purpose, the statement of purpose shall prevail.

Application of materiality: Accounting for Income Tax

.05 Information about accounting for income tax is material if its omission, non-disclosure or mis-statement is likely to affect economic decisions or other evaluations made by users entitled to rely on the accounts or group accounts.

Definitions

.06 In this standard unless the contrary intention appears:

"**brought to account**" means recognised in the accounts or group accounts, otherwise than by way of note;

"**Code**" means, where this standard applies in –
(a) the Australian Capital Territory – the Companies Act 1981, and the regulations made under that Act; or
(b) a State or the Northern Territory – the Companies Code of a State or the Northern Territory, as defined in the Companies (Application of Laws) Act of that State or the Northern Territory and the regulations applying under that Code;

(a) accounts of a corporation referred to in paragraph 158(5)(b) of the Code or, where that corporation is a holding company, the group accounts prepared in accordance with that paragraph – the period of six months after the end of the financial year of that corporation;
(b) a set of consolidated accounts of a borrowing corporation and each guarantor corporation referred to in paragraph 158(6)(b) of the Code – the period of six months after the end of the financial year of the borrowing corporation; or
(c) the accounts or group accounts of any other corporation – the financial year of the corporation;

"**future income tax benefit**" means the estimated amount of future saving in income tax likely to arise as a result of:
(a) the reversal of timing differences; and
(b) the recoupment of carried forward tax losses (which for the purposes of this standard are dealt with separately from other timing differences);

"**income tax expense**" means the amount of income tax which would be payable on the pre-tax accounting profit adjusted for permanent differences. The term "income tax benefit" is used to describe this amount where it is a net credit;

"**income tax payable**" means the amount of income tax calculated on the taxable income of a company for the financial period;

"**permanent differences**" means differences between taxable income or tax loss and pre-tax accounting profit or loss arising from the existence of:
(a) particular expenses and particular items of revenue, which, under current income tax legislation, will never be included in the determination of taxable income or tax loss although they are brought to account in the profit and loss account; and
(b) particular amounts which are allowable deductions or which are assessable income for income tax purposes although these amounts will never be brought to account in the profit and loss account;

"**pre-tax accounting profit or loss**" means the aggregate of the operating profit or loss and the extraordinary items for a given financial period before charging the related income tax expense or before crediting the related future income tax benefit;

"**provision for deferred income tax**" means the non-current liability for the estimated amount of income tax expected to be assessed in the future as a result of the reversal of timing differences;

"**provision for income tax**" means the current liability for the estimated amount of income tax which is assessable on the taxable income of the company for the current and prior financial periods (to the extent that such tax has not been already paid);

"**taxable income**" means the excess of assessable income over allowable deductions calculated according to the provisions of the applicable income tax legislation ("tax loss" means the converse); and

"**timing differences**" means differences between pre-tax accounting profit or loss and taxable income or tax loss for a given financial period which arise because the financial period in which some items of revenue

and expense are included in the determination of the pre-tax accounting profit or loss does not coincide with the financial period in which they are included in the determination of taxable income or tax loss.

Each timing difference originates in one financial period and is reversed, or "turns around", in one or more subsequent financial periods.

Relevant provisions of the Code include:

Sub-section 266E(1): "Unless the contrary intention appears in the accounting standard, an expression used in an approved accounting standard has the same meaning as the expression has in this Part [Part VI]".

Sub-section 5(1): definition of "financial year" and "profit and loss account".

Sub-section 7(1): definition of "subsidiary".

Sub-section 266(1): definition of "accounts", "group accounts" and "group of companies".

Determination of income tax expense, provision for deferred income tax and future income tax benefit

.10 The amount of the income tax expense attributable to the transactions included in the profit and loss account for a financial period shall be brought to account in that profit and loss account irrespective of whether the income tax is currently payable, or has already been paid, or will become payable in the future. The amount of such income tax expense shall be calculated on the pre-tax accounting profit or loss, adjusted for permanent differences (if any), by using the liability method of tax-effect accounting. Where the permanent differences are material, a note to the accounts and group accounts shall state their general nature and the extent to which they have affected the amount of income tax expense.

.11 If in respect of a financial period the income tax payable differs from the income tax expense, the amount of the difference:
(a) shall be brought to account and disclosed as a liability, described as "provision for deferred income tax", to the extent that the difference arises from timing differences caused by the present deductibility for tax purposes of expenses deferred for accounting purposes and/or the present non-assessability for tax purposes of revenue included in the determination of pre-tax accounting profit or loss; and
(b) shall, subject to the provisions of clauses .12 and .13, be brought to account and disclosed as an asset, described as "future income tax benefit", to the extent that the difference arises from timing differences caused by the present non-deductibility for tax purposes of expenses included in the determination of the pre-tax accounting profit or loss and/or the current assessability for tax purposes of revenue items deferred for accounting purposes.

For endorsed comment on clauses .10 and .11 see:

Paragraphs (ii) and (iii): Differences between taxable income or tax loss and pre-tax accounting profit or loss

.12 A future income tax benefit referred to in clause .11 shall only be carried forward as an asset where realisation of the benefit can be regarded as being assured beyond any reasonable doubt. Realisation shall depend upon:
(a) the ability of the company to derive future assessable income of a nature and of sufficient amount to enable the benefit to be realised;
(b) the ability of the company to continue to comply with the conditions for deductibility imposed by law; and
(c) an expectation that legislation will not change in a manner which would adversely affect the company's ability to realise the benefit.

.13 In the case of companies which incur losses, any future income tax benefit shall not be brought to account as an asset unless realisation of the benefit is virtually certain. Where any part of a future income tax benefit carried forward as an asset is attributable to tax losses, that part shall be separately disclosed by way of note in the accounts and group accounts.

.14 Where a provision for deferred income tax exists and a company incurs a tax loss, the future income tax benefit attributable to the tax loss shall be brought to account as a reduction of the provision for deferred income tax to the extent that deferred income tax has already been provided in respect of timing differences which will reverse within the financial periods during which the tax loss will remain available as a deduction from assessable income. The amount representing the reduction in the provision shall be shown in the accounts and group accounts by way of note or otherwise and described as "provision for deferred income tax no longer required". The extent to which the provision for deferred income tax is reduced by future income tax benefits attributable to tax losses shall be separately disclosed by way of note in the accounts and group accounts of each financial period while the losses remain available as a deduction.

.15 To the extent that a future income tax benefit attributable to tax losses has not been recognised as an asset or as a reduction in a provision for deferred income tax and there is a possibility that the tax losses will be recouped in accordance with tax legislation, the future income tax benefit expected to arise from the recoupment shall be shown by way of a note to the accounts and group accounts. The note shall state that the benefit will only be obtained if:
(a) the company derives future assessable income of a nature and of an amount sufficient to enable the benefit from the deductions for the loss to be realised;
(b) the company continues to comply with the conditions for deductibility imposed by tax legislation; and
(c) no changes in tax legislation adversely affect the company in realising the benefit from the deductions for the loss.

.16 In any financial period in which past income tax losses are recouped, the income tax expense for that financial period, determined in accordance with clause .10 above, shall be brought to account in the profit and loss account in the normal way, and –
(a) to the extent that the future income tax benefit attributable to such losses has not been brought to account (or if it had been brought to account and subsequently reversed) – the tax benefit derived from the recoupment of those losses shall be included in the profit and loss

(b) if a future income tax benefit had been previously brought to account in relation to tax losses – that future income tax benefit shall be reduced by the amount of the realised tax benefit; or
(c) if a provision for deferred income tax had been previously reduced or eliminated – the excess of the income tax expense (less the amounts, if any, already dealt with under paragraphs (a) and (b) above) over the income tax currently payable shall be added to the provision for deferred income tax so that when the past tax losses are recouped and income tax becomes payable the provision will be sufficient to cover the income tax which becomes payable as the related timing differences reverse.

.17 Where differences arise between the amount of the income tax payable in respect of a financial period and the income tax expense for the same financial period, and some or all of the differences arise because of reversals of timing differences brought to account in prior financial periods, the differences attributable to such reversals shall be adjusted against the balance shown in the future income tax benefit account, or provision for deferred income tax account. At each balance date a transfer shall be made from the provision for deferred income tax to the provision for income tax of any portion of the first-mentioned provision which has become a current liability as a result of the reversal of timing differences.

For endorsed comment on clauses .12 to .17 see:

Paragraphs (viii) to (xii): Future income tax benefits

.18 Except in the case of group accounts, a provision for deferred income tax shall be offset against future income tax benefit brought to account, to the extent that income tax covered by the provision is likely to become payable in the same financial periods as the future income tax benefit is expected to become realisable.

Group accounts

.20 A future income tax benefit brought to account by one company in a group of companies shall not be offset against a provision for deferred income tax brought to account by another company in the group of companies, when drawing up group accounts.

Taxes on distribution of profits and reserves

.30 Where accounts or group accounts include profits and reserves of branch operations or subsidiaries which, on distribution to the company or holding company, will be subject to overseas withholding tax or to further Australian income tax, the reduction which this future tax will impose on the amount ultimately available to the company or holding company shall be brought to account as provision for deferred income tax in the accounts or group accounts unless there is evidence that the company or holding company intends to leave those profits and reserves indefinitely in the hands of the branch operations or subsidiaries.

Changes in income tax rates

.40 Whenever there is a change in the income tax rate, either or both of the provision for deferred income tax and the future income tax benefit brought forward from the previous financial period shall be adjusted accordingly. If the adjustment is material, the corresponding amount brought to account in the profit and loss account shall be disclosed.

Transitional provision

.50 Where the accounting treatments required by this standard are not already being applied at the date this standard is first applied they shall be applied retrospectively. Where this gives rise to initial adjustments, the net amount of these adjustments shall, in accordance with clause .11 of Approved Accounting Standard ASRB 1018: Profit and Loss Accounts, be adjusted against retained profits or accumulated losses at the beginning of the financial period in which this standard is first applied.

COMMENTARY

Differences between taxable income or tax loss and pre-tax accounting profit or loss

(i) Under Australian income tax legislation, the amount of tax levied against a company is based upon its taxable income or tax loss which will often differ in amount from its pre-tax accounting profit or loss because of permanent and timing differences.

(a) Permanent differences

(ii) Permanent differences alter the incidence of income tax in relation to the pre-tax accounting profit or loss of the financial period in which they occur, but do not affect income tax calculations in respect of subsequent financial periods. An example of an item creating a permanent difference under present income tax legislation is non-allowable depreciation on buildings.

(b) Timing differences

(iii) Timing differences will result in the amount of income tax expense being either greater or less than the income tax payable for the financial periods in which the differences originate and then reverse. Four sets of circumstances give rise to timing differences:
(a) items of revenue included in the determination of pre-tax accounting profit or loss before they are included in taxable income or tax loss, for example, gross profits on instalment sales brought to account for accounting purposes in the financial period of sale but assessable for tax purposes in the financial periods during which the instalments are collected;
(b) expenses deducted in determining taxable income or tax loss before they are deducted in the determination of pre-tax accounting profit or loss, for example, research and development costs deducted for tax purposes as incurred but carried forward in the accounts to be charged against future revenue;
(c) items of revenue included in taxable income or tax loss before they are included in the determination of pre-tax accounting profit or loss, for example, rents or insurance premiums collected in advance and reported for tax purposes in the financial period in which they are received but deferred

for accounting purposes until later financial periods when they are recognised as being earned; and

(d) expenses deducted in the determination of pre-tax accounting profit or loss before they are deducted in the determination of taxable income or tax loss, for example, provisions for guarantees and product warranties, or provision for long service leave made for accounting purposes on an estimated basis in the financial period in which the related revenue is brought to account, but only allowed for tax purposes in later financial periods when payment is made or when the liability becomes certain.

The liability method of tax-effect accounting

(iv) The liability method (sometimes referred to as the accrual method) is based on the assumption that a provision for deferred income tax arises whenever:

(a) an item of revenue is recognised in the determination of pre-tax accounting profit or loss before it is included in taxable income or tax loss; or

(b) an expense is deducted in calculating taxable income or tax loss before it is recognised in the determination of pre-tax accounting profit or loss;

and conversely, that an asset in the nature of a future income tax benefit arises whenever:

(c) an item of revenue is included in taxable income or tax loss before it is recognised in the determination of pre-tax accounting profit or loss; or

(d) an expense is recognised in the determination of pre-tax accounting profit or loss before it is deducted in calculating taxable income or tax loss.

(v) The estimated amounts of this liability and this asset are determined by calculating the difference between income tax expense and income tax payable, using the tax rate or rates that are expected to apply when the underlying timing differences reverse. The estimates are later amended if the expected tax rates change or new taxes are imposed.

(vi) The adoption of the liability method thus results in income tax expense being accrued in the same way as any other expense. Where timing differences have the effect of postponing the payment of tax, the liability method results in both the matching of expense with revenue and the bringing to account of the liability for income taxes payable in the future. Timing differences which result in the prepayment of income tax are also brought to account as assets in order to avoid overstating expenses in the financial periods in which the timing differences originate, and understating expenses in the financial periods in which these differences reverse.

(vii) Accounts and group accounts prepared using the liability method of tax-effect accounting will at all times show any provision for deferred income tax and any future income tax benefit at the tax rates that, at the time the accounts and group accounts are prepared, are expected to apply when the underlying timing differences reverse. On this basis, provision for deferred income tax and future income tax benefits are generally measured using the current rate of income tax. However, when it is known that a different rate of tax will apply by the time

intention to change the rate of income tax to another specified rate is normally accepted as adequate evidence that a change to that rate will occur.

Future income tax benefits

(viii) Tax-effect accounting procedures can be expected to give rise to provision for deferred income tax in respect of timing differences and future income tax benefits in respect of both timing differences and tax losses. Whilst there would appear to be no reason to question the bringing to account of provision for deferred income tax attributable to timing differences and the carrying forward of such a provision under tax-effect accounting procedures, it would appear to be necessary and appropriate to examine the asset which arises on the application of tax-effect accounting procedures to determine whether or not in all cases it is appropriate to carry forward such an asset to future financial periods.

(ix) Accounting principles normally require a write-down of assets where they are not expected to realise their carrying amounts. In accordance with these principles, future income tax benefits carried forward as assets are examined to determine whether realisation of the related benefit is assured beyond any reasonable doubt. In considering this matter it should be noted that realisation will take the form of a charge against future pre-tax accounting profit or loss and therefore the ability of a company to earn adequate profits and taxable income in future financial periods must be assured beyond any reasonable doubt if future income tax benefits are to be brought to account as assets. A determination as to the ability of a company to earn a sufficient level of profits in future financial periods will be influenced by whether or not a company has a history of profitable operations and is currently profitable.

(x) Where a company incurs a tax loss, significant doubts must arise as to the ability of such a company to realise the related future income tax benefit and in these circumstances it is considered that it would be imprudent to bring to account as an asset the future income tax benefit attributable to the tax loss unless realisation of the benefit is virtually certain. It is considered that this test of virtual certainty will only be met in rare and exceptional cases. However, where a company incurs a tax loss, realisation of the future income tax benefit can, to some extent, be regarded as virtually certain where there is already in existence as a liability, a provision for deferred income tax. The extent to which realisation can be regarded as virtually certain is the extent to which deferred income tax has already been provided in respect of timing differences which will reverse in the financial periods during which the tax loss will remain available as a deduction. In these circumstances, when a loss is incurred, the benefit of the tax loss arising therefrom can be treated as effectively realised (and can be brought to account in the form of a reduction in the provision for deferred income tax) on the basis that the tax provided as a cover against the future reversal of timing differences will not become payable whilst the tax loss remains unrecouped and available as a deduction from future assessable income.

(xi) Since it is not appropriate to draw a distinction between:

(a) the ability of a company which incurs a loss to realise the future income tax benefit attributable to the loss; and

(b) the ability of such a company to realise a future income tax benefit attributable to timing differences;

it would be appropriate in the case of such a company to apply the same test of virtual certainty as to realisation in determining whether the company should bring to account as an asset any future income tax benefit, whether the benefit is

(xii) *Where a company which incurs a tax loss has either not brought to account a future income tax benefit attributable to that loss or has written off future income tax benefits brought forward in relation to timing differences, there would be no reason to preclude such a company from recording such benefits as assets in a later financial period should it return to profitable operations and meet the requirement as to virtual certainty of realisation.*

Revaluations and disposals of depreciable assets

(xiii) *Where a revaluation of an asset which is depreciable for income tax purposes has resulted in an increase in the amount at which that asset is carried in the accounts and group accounts, this increase is depreciated over the remaining useful life of the asset. As the additional depreciation charge is not an allowable deduction for income tax purposes, the revaluation results in a permanent difference in subsequent financial periods between pre-tax accounting profit or loss and taxable income or tax loss which is taken into account in determining the amount of income tax expense.*

(xiv) *Where the amount received on the disposal of a depreciable asset exceeds its depreciated value, a liability for income tax may arise in respect of all or part of the excess. Where an election is made under sub-section 59(2A) of the Income Tax Assessment Act 1936 to reduce the cost, for the purpose of calculating depreciation allowable under this Act, of other units of property by the assessable portion of the excess, that amount is treated as a timing difference.*

Interim accounts and group accounts

(xv) *The calculation of the income tax expense to be shown in interim accounts and group accounts is based on the tax rate expected to be applicable for the full financial year, and reflects the incidence of any permanent differences and timing differences which have been caused by transactions or events during the period covered by the interim accounts and group accounts.*

PROBABILITY EXPRESSION RESEARCH INSTRUMENT

GROUP 9

GENERAL INSTRUCTIONS

The following research instrument is gathering information from experienced auditors about an expression currently used in an Australian accounting standard. The accounting standard has been placed in the appendix should you need to refer to it. The research is concerned with judgements that you make in your working environment and we would like you to provide answers that reflect your judgements in the "real world" environment.

Part A contains one question on the numerical level of probability that you associate with a particular probability expression.

Part B contains two real (though simplified) cases and for each case you are asked to make three judgements. Even if you feel that there is not enough information please endeavour to work with the information available to you.

Part C contains one question dealing with your beliefs about the meaning of a particular probability expression.

Finally, Part D contains some general questions and some questions concerning biographical details.

You should complete the questionnaire without consulting your peers but please speak with the person coordinating this research if you have any queries. Once you have answered a question move on to the next question and do not go back and change any previous answers.

We appreciate your participation in this research and stress that there are **no "trick" questions** and **no right or wrong answers** to the questions being asked.

PART A

AASB 1019: Measurement and Presentation of Inventories in the Context of the Historical Cost System clause .11 specifically refers the reader to paragraphs (i) and (ii) of the Commentary within AASB 1019. Paragraphs (i) and (ii) of the Commentary state the following:

The general basis of inventory measurement

(i) *Inventories are acquired in the expectation of deriving revenue, directly or indirectly, from their sale or use in producing finished goods. In order to determine the profit or loss of a company for a financial period by an appropriate matching of revenues and expenses, it is necessary to carry forward the costs related to the acquisition of inventories until the inventories are sold or used up. Thus, in historical cost accounting, the principal basis for stating inventories held at balance date is cost.*

(ii) *However, if it is not* ***probable*** (emphasis added) *that there will be sufficient revenue to cover the cost incurred as a result, for example, of deterioration, obsolescence or a change in demand, it is necessary that any irrecoverable cost be brought to account as an expense in the current financial period. Thus, inventories normally are stated at net realisable value if this is lower than cost.*

What is the minimum level of numerical probability (between 0 – 100%) that you believe to be equal to the expression "probable"?

"Probable" means at least - _____%

PART B

CASE 1

Quadstrad Ltd is a publicly listed company incorporated in 1986. Its principal activity is the manufacture and distribution of children's toys. During the 1996 financial year Quadstrad Ltd acquired the rights to manufacture and distribute a doll (called the "Jaxon Man" doll) which was essentially a replica of an extremely famous and popular rock music personality. As at May 1996 Quadstrad Ltd had manufactured a material level of the Jaxon Man dolls which represented some 25% of its inventory. During May and June 1996 the music personality was involved in a highly publicised scandal which threw some doubt over the marketability of the dolls and Quadstrad Ltd put the production of the dolls on hold. In the draft 1996 financial statements the Jaxon Man dolls were recorded as inventory at their cost to Quadstrad Ltd. As at 30 June 1996 the financial controller was concerned with the adverse publicity surrounding the "scandal" and believed that an unfavourable outcome in the probable court case could see the Jaxon Man dolls not ever being sold. The financial controller has no other information concerning the likelihood of a court case or its outcome and predictions for future economic, industrial and legislative conditions in Australia are the same as those predictions that you are currently applying in your working environment. The Australian Securities Commission has recently informed the directors of Quadstrad Ltd that the company's accounting policies concerning the recognition and valuation of some of its assets are under investigation. A change in these policies will have little or no effect on the company's cashflows.

REQUIRED

Assume you are the auditor for Quadstrad Ltd and you are assessing whether the amounts recorded for inventory in the draft 30 June 1996 balance sheet should be written off or remain recognised as an asset.

1. Given the facts of the above case how confident are you that the company will recover the amounts recorded as inventory?

   Please express your answer in terms of a numerical probability between 0 - 100% (inclusive). _____%

2. What is the minimum level of numerical probability (between 0 - 100% inclusive) that you believe to be equal to the word 'probable'?

   'Probable' means at least - _____%

3. Would you continue to recognise the inventory as an asset in the body of the balance sheet in the 1996 financial statements?

   Circle your response: YES / NO

CASE 2

Palcec Ltd is a publicly listed company incorporated in 1930. Its major operations are located in the mining industry. In the 1992 financial year Palcec commenced exploration and evaluation of an area of interest (which it owned) looking for deposits of a new mineral called 'M3'. At 30 June 1992 the area had been assessed as having large deposits of M3 and development of the area commenced. As at the current financial year ended 30 June 1996 Palcec Ltd had accumulated a material level of M3 as inventory. The inventory was recorded as an asset and valued at the lower of cost and net realisable value in the draft 1996 financial statements. In April 1996 Palcec Ltd heard of an ongoing court case in the United States at which a respected expert on M3 had indicated that M3's qualities may be grossly overestimated. If the expert is correct the mineral will be virtually unsaleable. Another authority on M3 has reported findings which contradict the testimony of the expert in the US court case. As at 30 June 1996 the financial controller has no other information concerning M3 and predictions for future economic, industrial and legislative conditions in Australia are the same as those predictions that you are currently applying in your working environment. The Australian Securities Commission has recently informed the directors of Palcec Ltd that the company's accounting policies concerning the recognition and valuation of some of its assets are under investigation. A change in these policies will have little or no effect on the company's cashflows.

REQUIRED

Assume you are the auditor for Palcec Ltd and you are assessing whether the amounts recorded for inventory in the draft 30 June 1996 balance sheet should be written off or remain recognised as an asset.

1. Given the facts of the above case how confident are you that the company will recover the amounts recorded as inventory?

   Please express your answer in terms of a numerical probability between 0 - 100% (inclusive). _____%

2. What is the minimum level of numerical probability (between 0 - 100% inclusive) that you believe to be equal to the word 'probable'?

   'Probable' means at least - _____%

3. Would you continue to recognise the inventory as an asset in the body of the balance sheet in the 1996 financial statements?

   Circle your response: YES / NO

PART C

In this part of the questionnaire we are interested in your opinions on a particular probability expression which is used in an Australian accounting standard. Though you may feel it is difficult to generalise, we would like you to express your opinions as accurately as you can. As with your responses in Part A and B **there are no right or wrong answers**.

We want you to describe your opinions about a particular probability expression using certain scales (known as "adjectival pairings" e.g. CONTROLLABLE : UNCONTROLLABLE or GOOD : BAD). The following instructions are to be used in completing the questionnaire:

1. Please indicate your response to each scale by placing a cross (X) in the space that best describes your response.

   For example, if you feel that the probability expression is a concept that tends to be something which is controllable indicate this as below:

   CONTROLLABLE : X : _ : _ : _ : _ : _ : UNCONTROLLABLE

   If on the other hand you feel that the probability expression is a concept that tends to be uncontrollable, indicate this as below:

   CONTROLLABLE : _ : _ : _ : _ : _ : X : UNCONTROLLABLE

   If think the scale (adjectival pairing) is irrelevant to describing the probability expression then place a cross (X) on the mid-point of the scale as indicated below:

   CONTROLLABLE : _ : _ : _ : X : _ : _ : UNCONTROLLABLE

2. If the probability expression has no meaning to you (i.e. you have no idea what the expression means) then **do not** place a cross on **any** of the scales. Instead place a cross (X) in the box labelled "NO MEANING".

Turn the page to complete this part of the questionnaire.

Paragraphs (i) and (ii) of the Commentary of AASB 1019: Measurement and Presentation of Inventories in the Context of the Historical Cost System state the following:

The general basis of inventory measurement

(i) Inventories are acquired in the expectation of deriving revenue, directly or indirectly, from their sale or use in producing finished goods. In order to determine the profit or loss of a company for a financial period by an appropriate matching of revenues and expenses, it is necessary to carry forward the costs related to the acquisition of inventories until the inventories are sold or used up. Thus, in historical cost accounting, the principal basis for stating inventories held at balance date is cost.

(ii) However, if it is not ***probable*** (emphasis added) *that there will be sufficient revenue to cover the cost incurred as a result, for example, of deterioration, obsolescence or a change in demand, it is necessary that any irrecoverable cost be brought to account as an expense in the current financial period. Thus, inventories normally are stated at net realisable value if this is lower than cost.*

With respect to recognising inventory on the balance sheet, the expression "probable" tends to be:

COMPLETE	: _ : _ : _ : _ : _ : _ :	INCOMPLETE
DISCRETIONARY	: _ : _ : _ : _ : _ : _ :	REQUIRED
REAL	: _ : _ : _ : _ : _ : _ :	IMAGINARY
BENEFICIAL	: _ : _ : _ : _ : _ : _ :	ADVERSE
TEMPORARY	: _ : _ : _ : _ : _ : _ :	PERMANENT
CONTROLLABLE	: _ : _ : _ : _ : _ : _ :	UNCONTROLLABLE
UNEXPECTED	: _ : _ : _ : _ : _ : _ :	EXPECTED
PASSIVE	: _ : _ : _ : _ : _ : _ :	ACTIVE
STATIC	: _ : _ : _ : _ : _ : _ :	DYNAMIC
LONG TERM	: _ : _ : _ : _ : _ : _ :	SHORT TERM
INFLEXIBLE	: _ : _ : _ : _ : _ : _ :	FLEXIBLE
EXACT	: _ : _ : _ : _ : _ : _ :	ESTIMATED
BAD	: _ : _ : _ : _ : _ : _ :	GOOD
MEASURABLE	: _ : _ : _ : _ : _ : _ :	UNMEASURABLE
NECESSARY	: _ : _ : _ : _ : _ : _ :	UNNECESSARY
PLANNED	: _ : _ : _ : _ : _ : _ :	UNPLANNED
OBJECTIVE	: _ : _ : _ : _ : _ : _ :	SUBJECTIVE
TANGIBLE	: _ : _ : _ : _ : _ : _ :	INTANGIBLE
STRONG	: _ : _ : _ : _ : _ : _ :	WEAK
INDIRECT	: _ : _ : _ : _ : _ : _ :	DIRECT
VARIABLE	: _ : _ : _ : _ : _ : _ :	CONSTANT
SAFE	: _ : _ : _ : _ : _ : _ :	RISK

☐ The concept has NO MEANING for me

PART D

1. Did you understand the question that was asked in Part A of this questionnaire?

   Circle the correct response: YES / NO

2. If your answer to question 1 was "NO" please explain below. If your answer was "YES" to question 1 proceed to question 3.

   _____

   _____

   _____

   _____

   _____

3. Did you understand all the questions asked in Part B of this questionnaire?

   Circle the correct response: YES / NO

4. If your answer to question 3 was "NO" please explain below. If your answer was "YES" to question 3 proceed to question 5.

   _____

   _____

   _____

   _____

   _____

5. In Part B of this questionnaire you were asked to make judgements in the context of two real though simplified cases. Due to the nature of this research the cases had to be brief and simplified. For example, information about your own time and budget constraints, cashflow forecasts and client budgets, first hand knowledge of the company and other issues that you would normally face in your daily working environment could not be provided. The following question is not asking about these matters or about the quality of the information you were provided with. The following question is asking for your opinion about the three decisions that you were asked to make in each of the cases. When answering the question place a cross (X) in the space which best reflects your answer.

Would you agree or disagree with the following statement:

Although the information in the cases was brief and simplified, the actual decisions that you were asked to make in Part B are similar to the decisions that you make in your working environment.

AGREE I : : : : : : I DISAGREE

6. Did you understand the question asked in Part C of this questionnaire?

Circle the correct response: YES / NO

7. If your answer to question 6 was "NO" please explain below. If your answer was "YES" to question 6 proceed to question 8.

_____

_____

_____

_____

_____

8. What is the minimum numerical level of probability (with respect to the realisation of future economic benefits) that you think should be reached before you would recognise an asset on the balance sheet?

The asset recognition probability should be at least: _____%

9. What is the minimum numerical level of probability (with respect to incurring future economic losses) that you think should be reached before you would recognise a liability on the balance sheet?

The liability recognition probability should be at least: _____%

10. Would your answer to questions 8 and/or 9 change depending upon the facts of the case?

Circle the correct response: YES / NO

Briefly explain:

_____

_____

_____

_____

_____

11. How many years have you worked as an auditor?: _____yrs.

12. Is there anything that you wish to comment on in regard to this questionnaire?:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Many thanks - your participation is greatly appreciated.

APPENDIX

AASB 1019: Measurement and Presentation of Inventories in the Context of the Historical Cost System

Introductory Comments by the Technical Editors

The following introductory note has been prepared by the Technical Editors and does NOT form part of the approved accounting standard.

Approved accounting standard ASRB 1019: Measurement and Presentation of Inventories in the Context of Historical Cost was approved on 30 October 1989 and is effective for financial years ending on or after 31 December 1989. Unlike earlier ASRB standards this standard has been approved on an interim basis only and will be subject to a further detailed review by the ASRB. The standard was approved following the issue of ASRB Release 416: Consideration by the Accounting Standards Review Board of Accounting Standards AAS 1, 2, 3, 4 and 7 for Interim Approval and Certain Proposed Amendments to such Standards in January 1989. The corresponding AAS standard, AAS 2, was reissued in November 1989 incorporating the changes in ASRB 1019. The exclusion of marketable securities from both ASRB 1019 and AAS 2 undermines whatever authority the guidance in AAG 9 "Accounting for Marketable Securities in the Context of Statements of Accounting Standards AAS 2 and AAS 10" [issued April 1988] has in relation to ASRB 1019. It should be noted that AAG 9 has not been given express approval by the ASRB.

Although the power of the ASRB to issue standards under section 266B of the *Companies Code* is limited to companies, other entities may be required by other laws to comply with standards approved by the ASRB under the *Companies Code*. The obligation of members of the Australian Society of Certified Practising Accountants and the Institute of Chartered Accountants in Australia to comply with AAS standards, when there is a corresponding ASRB standard, is explained in the 1990 reissue APS 1 "Conformity with Statements of Accounting Concepts and Accounting Standards", as being limited to reporting entities *other than* those "required by legislation, ministerial directive or other government authority to comply with applicable Approved Accounting Standards" [paragraphs 6 and 9]. This policy change was announced on 30 May 1989 and was immediately effective.

In July 1991, the Australian Accounting Standards Board issued Accounting Standard AASB 1025: Application of the Reporting Entity Concept and Other Amendments. Notice of the approval of this Standard was published in the Commonwealth of Australia Gazette on 23 August 1991. The Standard applies to financial years ending on or after 30 June 1992. Subsection 285(3) of the Corporations Law allows directors of a company to elect in writing that a Standard made under section 32 of the Corporations Act 1989 which has not yet come into operation (*i.e.*, does not apply to the particular financial year, apart from sub-section (4)) shall apply to the financial year.

The principal objective of AASB 1025 is to put into place in all ASRB Standards the AASB's policies concerning the reporting entity concept, the application of materiality, interpretation provisions and transitional provisions. In respect of ASRB 1018, amendments are made to Citation (1018.00), Application (1018.02), Interpretation (1018.04), Materiality (1018.05), and Definitions (1018.06) clauses.

In September 1993, AARF Issued Discussion Paper No. 18 "A Review of the Australian Accounting Standards on Inventories".

In July 1994, ED 61 Application of Accounting Standards to Disclosing Entities other than Companies was issued with comments being sought by 30 September 1994. ED 61 proposes that Accounting Standards issued by the AASB be applied to the financial year accounts and consolidated accounts of disclosing entities that are not companies.

For the half-year ending on or after 31 December 1994, each disclosing entity is required to prepare half-year accounts or consolidated accounts under the enhanced disclosure provisions of the Corporate Law Reform Act 1994. Under AASB 1029: Half-Year Accounts and Consolidated Accounts, the amounts and other disclosures included in the half-year accounts or consolidated accounts, whether required by AASB 1029 or made voluntarily, are to be determined in accordance with AASB Accounting Standards.

End of Introductory Comments by the Technical Editors

Citation

.00 This standard, with the exception of the words shown in italics, may be cited as Approved Accounting Standard ASRB 1019: Measurement and Presentation of Inventories in the Context of the Historical Cost System

Endorsed explanatory material

.01 The words shown in italics do not form part of the standard. They are published with the standard as an aid to its interpretation.

Explanatory material is set out in two ways:
(a) immediately after certain of the requirements; and
(b) as a commentary at the end of the standard.

Application

.02 This standard:
(a) applies to each company in relation to its first financial period that ends on or after 31 December 1989, and in relation to subsequent financial periods of the company; and
(b) does not apply to inventories that are:
(i) forests, livestock, or similar regenerative natural resources;
(ii) work in progress under long-term engineering, real estate development or construction projects; or
(iii) marketable securities.

Notice of the approval of this standard was published in the Commonwealth of Australia Gazette on 30 October 1989.

In all cases, compliance with a requirement of a standard is subject to any relevant provision of the Code.

Statement of purpose

.03 The purpose of this standard is:
(a) to specify the method of measuring inventories and the manner in which costs are to be assigned to inventories in the context of the historical cost accounting system; and
(b) to require disclosure of information relating to inventories in the accounts and group accounts of a company;
so that users entitled to rely on the accounts or group accounts are provided with information on inventories which is necessary for an understanding of the financial position, performance, and financing and investing of the company or group of companies.

Interpretation

.04 Where there is a conflict between the interpretation of a provision of this standard and the statement of purpose, the statement of purpose shall prevail.

Application of materiality: Inventories

.05 Information about inventories is material if its omission, non-disclosure or mis-statement is likely to affect economic decisions or other evaluations made by users entitled to rely on the accounts or group accounts.

Definitions

.06 In this standard unless the contrary intention appears:

"**absorption costing**" means the method whereby the cost of inventories is determined so as to include the appropriate share of both variable and fixed costs, the latter being allocated on the basis of normal operating capacity;

"**balance date**" means the end of the financial period to which the accounts or group accounts relate;

"**brought to account**" means recognised in the accounts or group accounts, otherwise than by way of note;

"**Code**" means, where this standard applies in –
(a) the Australian Capital Territory – the Companies Act 1981, and the regulations made under that Act; or
(b) a State or the Northern Territory – the Companies Code of a State or the Northern Territory, as defined in the Companies (Application of Laws) Act of that State or the Northern Territory and the regulations applying under that Code;

"**cost of conversion**" means:
(a) the cost of direct labour (including any charges directly incurred in connection with the employment of such labour) and of sub- contracted work; and
(b) other production costs ascertained in accordance with the absorption costing method and excludes costs which relate to general administration, finance, marketing, selling and distribution to customers;

"**cost of inventories**" means the aggregate of:
(a) the cost of purchase;
(b) the cost of conversion; and
(c) other costs;

incurred in the normal course of operations in bringing the inventories to their present location and condition;

"**cost of purchase**" means the purchase price plus duties and taxes, inwards transport costs and any other directly attributable costs of acquisition, less discounts (other than settlement discounts), rebates and subsidies whether immediate or deferred;

"**current assets**" means, in relation to –
(a) a corporation – cash or other assets of the corporation that would in the ordinary course of business of that corporation be consumed or converted into cash within 12 months after the end of the last financial period of that corporation; or
(b) a group of companies – cash or other assets of each corporation in the group that would in the ordinary course of business of that corporation be converted into cash within 12 months after the end of the last financial

(a) accounts of a corporation referred to in paragraph 158(5)(b) of the Code or, where that corporation is a holding company, the group accounts prepared in accordance with that paragraph – the period of six months after the end of the financial year of that corporation;
(b) a set of consolidated accounts of a borrowing corporation and each guarantor corporation referred to in paragraph 158(6)(b) of the Code – the period of six months after the end of the financial year of the borrowing corporation; or
(c) the accounts or group accounts of any other corporation the financial year of the corporation;

"**fixed costs**" means those costs of production which remain relatively constant from financial period to financial period irrespective of variations, within normal operating limits, in the volume of production;

"**inventories**" means goods, other property and services:
(a) held for sale in the ordinary course of business;
(b) in the process of production for such sale; or
(c) to be used up in the production of goods, other property or services for sale including consumable stores and supplies, but does not include depreciable assets as defined in Approved Accounting Standard AASB 1021: Depreciation of Non-Current Assets;

"**net realisable value**" means the estimated proceeds of sale less, where applicable, all further costs to the stage of completion and less all costs to be incurred in marketing, selling and distribution to customers;

"**non-current assets**" means all assets other than current assets;

"**replacement cost**" means the cost at which an identical inventory item could be purchased or manufactured at balance date, having regard to normal purchasing or production quantities and conditions; and

"**variable costs**" means those costs of production which vary directly, or nearly directly, with the volume of production.

Relevant provisions of the Code include:

Sub-section 266E(1): "Unless the contrary intention appears in the accounting standard, an expression used in an approved accounting standard has the same meaning as the expression has in this Part [Part VI]".

Sub-section 5(1): definition of "financial year" and "marketable securities".

Sub-section 266(1): definition of "accounts" and "group accounts".

Inventory measurement

.10 Subject to clauses .11 and .50, inventories shall be measured at the lower of cost and net realisable value on an item by item basis.

.11 When it is impracticable to measure items of inventory separately

For endorsed comment see:

Paragraphs (i) and (ii): The general basis of inventory measurement

Paragraphs (ix) to (xiv): Net realisable value

Determining cost and net realisable value

.20 Costs arising from exceptional wastage (material, direct labour or production expenses) shall be excluded when determining cost of inventories.

.21 Cost of inventories shall be based on standard costs only where standards are set so as to be realistically attainable and are reviewed regularly and, where necessary, revised in the light of current conditions. The cost of inventories so derived shall be adjusted for cost variances caused by significant changes in material prices, labour rates, manufacturing expenses or operating conditions to the extent that such variances directly relate to inventories on hand.

.22 Replacement cost shall be used only where it represents a fair approximation of net realisable value.

.23 When assessing the lower of cost and net realisable value, the net realisable value of inventory quantities held for delivery against firm sales contracts shall be based on the contract price.

.24 The retail inventory method shall be used to determine the cost of inventories only when it results in an amount reasonably approximating the lower of cost and net realisable value.

For endorsed comment see:

Paragraphs (iii) to (viii): Determining cost in relation to inventories

Paragraphs (ix) to (xiv): Net realisable value

Assigning costs to Inventories

.30 Cost of inventories shall be assigned to particular items of inventory by one or more of the following methods:
(a) specific identification;
(b) average cost (weighted);
(c) first in first out (FIFO); and
(d) standard cost.

.31 The method adopted shall be appropriate to the circumstances and applied consistently from financial period to financial period.

For endorsed comment see:

Materials, consumable stores and supplies

.40 Normal quantities of materials, consumable stores and supplies held fo use in the production of finished goods for sale shall not be measured a less than cost where the net realisable value of those finished goods is expected to equal or exceed the cost of those finished goods.

For endorsed comment see:

Paragraphs (x) and (xi): Net realisable value

By-products

.50 When the costs of by-products are not separable from the costs of th principal products, inventories of such by-products shall be stated at ne realisable value. The net realisable value of the by-products shall b deducted from the total cost of inventories in order to arrive at the cost o the principal products.

Disclosures in the accounts and group accounts

.60 Where the information is material, the accounts and group accounts sha disclose:
(a) inventories by class in the balance sheet in a manner appropriate t the business, stating the amount for each such class, including, as minimum, the following classes as between current assets and non current assets:
(i) raw materials and stores;
(ii) work in progress;
(iii) finished goods; and
(iv) land held for resale; and
(b) the general basis or bases adopted in inventory measurement, and th method(s) used to assign costs to the inventory quantities held at balanc date.

Transitional provision

.70 Where the accounting treatments required by this standard are no already being applied at the date this standard is first applied they shal be applied retrospectively. Where this gives rise to adjustments to th carrying amounts of inventories any corresponding net adjustment shall in accordance with clause .11 of Approved Accounting Standard ASR 1018: Profit and Loss Accounts, be adjusted against retained profits o accumulated losses at the beginning of the financial period in which thi standard is first applied.

COMMENTARY

The general basis of inventory measurement

(i) Inventories are acquired in the expectation of deriving revenue, directly or

Thus, in historical cost accounting, the principal basis for stating inventories held at balance date is cost.

(ii) *However, if it is not probable that there will be sufficient future revenue to cover the cost incurred as a result, for example, of deterioration, obsolescence or a change in demand, it is necessary that any irrecoverable cost be brought to account as an expense in the current financial period. Thus, inventories normally are stated at net realisable value if this is lower than cost.*

Determining cost in relation to inventories

(iii) *Production costs can be segregated into variable costs and fixed costs. This distinction is of particular importance in relation to depreciation. Where depreciation charges (in recognition of obsolescence as the prime factor) are made on a time basis, variations in the volume of production will not affect the amounts charged and therefore depreciation, in such cases, is considered to be a fixed cost. However, where depreciation charges (in recognition of wear and tear as the prime factor) are computed on an output basis, they will vary in direct relationship with the volume of production and in such circumstances depreciation is more correctly treated as a variable cost.*

(iv) *The two main methods for dealing with fixed costs are direct costing and absorption costing. Absorption costing better reflects the cost of obtaining the service potential of inventories and is required by this standard.*

(v) *Under absorption costing, fixed costs are included in the cost of inventories because they are considered to be as much a part of the cost of conversion as are direct labour and other variable costs. Under direct costing, fixed production costs are treated as period costs (that is, they are brought to account as expenses in the financial period in which they are incurred) and thus excluded from the cost of inventories. The supporters of absorption costing argue that it is the only method that gives proper recognition to the total cost of inventories, whereas use of direct costing may significantly understate the cost of inventories.*

(vi) *It is necessary for fixed costs included in the cost of inventories to be based on the company's normal operating capacity with any variance due to excess capacity being brought to account as an expense in the current financial period. In determining what constitutes normal capacity, the following factors need to be considered:*

- *(a) the volume of production which the production facilities are intended by their designers and by management to yield under the working conditions (for example, single or double shift) normally prevailing;*
- *(b) the budgeted level of activity for the current financial period and for the ensuing financial period; and*
- *(c) the level of activity achieved both in the current financial period and in previous financial periods.*

Although temporary changes in the level of activity may be ignored, persistent variation could require a revision of the previous norm.

(vii) *Standard costs are often used to arrive at cost for the purpose of inventory determining the cost of inventories is considered acceptable only if standards are set so as to be realistically attainable and are reviewed regularly and, where necessary, revised in the light of current conditions. The manner in which balances in cost variance accounts are dealt with, in relation to inventories on hand at balance date, will depend upon the nature of the variances and also the circumstances which caused them. If standards have been properly set and maintained, they are a sound basis for determining cost for the purpose of inventory measurement and all variances from standard can be brought to account as expenses or revenues in the financial period in which they arise. However, should significant changes have occurred in any of the factors on which the standards are based without the standard cost being amended accordingly, inventory measurement on the basis of those standard costs will require an apportionment between cost of goods sold and inventories of the resultant variances.*

(viii) *The ascertainment of cost of inventories in merchandising businesses can be difficult where the inventory comprises a large number of items with a high rate of turnover and the cost of individual items is often not readily obtainable. Under these circumstances a method widely followed, and known as "the retail inventory method", produces a measure of inventory which normally approximates the lower of cost and net realisable value. This method involves the discounting of the selling value (that is, value at current selling prices after mark-downs, if any) of the total inventory in a merchandise department, or classification, by the current average mark-up in that department, or classification, expressed as a percentage of the selling price. Where an inventory contains seasonal and slow moving items which are not expected to be sold at their original selling price and their price has therefore been marked down, the application of the retail inventory method could result in the particular items being measured at less than cost; when those items are ultimately sold, the normal gross profit percentage would in these circumstances be achieved. The use of actual gross profit percentages (which reflect the incidence of mark-downs as well as losses through theft and damage), in place of the current financial period's average mark-up, cannot be supported, as it could result in the cost of inventories being overstated.*

Net realisable value

(ix) *The initial calculation to reduce inventories from cost to net realisable value may often be made by using formulae based on predetermined criteria. The formulae normally take into account, as appropriate, the age, past movements, expected future movements and estimated scrap values of the inventories. Whilst the use of such formulae establishes a basis which can be consistently applied, it is still necessary for the result to be reviewed in the light of any special circumstances not anticipated in the formulae, such as changes in current demand.*

(x) *In respect of spares held for sale or use in after-sales service, past and future inventory movements need to be related to the total number of units in existence on which the spares can be used and also to the approximate date by which the last of those units can be expected to have gone out of service.*

(xi) *Special consideration needs to be given to materials, component parts and sub-*

which they are to be incorporated can be expected to equal or exceed the cost of that product. Where it is necessary to reduce the amount to be assigned to inventories of finished products from cost to net realisable value, inventories of materials, components and sub-assemblies held for the purpose of manufacturing such products need to be reviewed at the same time, having particular regard to any outstanding purchase orders, in order to determine if those items should also be reduced accordingly.

(xii) *The principal situations in which net realisable value is likely to be less than cost of inventories are those where there has been:*

(a) *a fall in selling price;*
(b) *physical deterioration of inventories;*
(c) *obsolescence of products;*
(d) *a decision, as part of a company's marketing strategy to manufacture and sell products for the time being at a loss; or*
(e) *miscalculations or other errors in purchasing or production.*

Furthermore, when inventories held are in excess of the quantities expected to be sold within the turnover period normal in the particular industry, there is an increased possibility that the risks outlined in (a) to (c) above may be encountered. Such risks therefore need to be taken into account in assessing net realisable value.

(xiii) *The comparison of cost and net realisable value needs to be made separately in respect of each item of inventory. Where this is impracticable, groups or categories of similar inventory items may have to be taken together. Comparison of the aggregate of the net realisable values of all the inventory items with the aggregate of the costs of all those items is not acceptable because it could result in bringing to account, wholly or in part, unrealised inventory gains.*

(xiv) *Items of inventory are sometimes stated in accounts and group accounts at their estimated replacement cost where this is lower than cost. There is no objection to this practice provided that replacement cost represents a fair approximation of net realisable value. Where replacement cost is less than net realisable value, its use is not regarded as acceptable in accounts and group accounts based on the historical cost system, because, in the context of this system, it could have the effect of distorting results as between successive financial periods.*

Inventory movements and cost flow

(xv) *A question separate from and additional to the determination of cost, is the assignment of costs to the inventory quantities held at balance date. Of the various methods which are used, each of the following, when employed in the appropriate circumstances, can be considered to achieve the objective of assigning costs with proper regard for the relationship between inventory movements and historical cost flows:*

(a) *specific identification – this method assigns specific costs to identified units of inventory;*
(b) *average cost – this method assigns weighted average costs, arrived at by means of a continuous calculation, a periodic calculation or a moving periodic calculation;*
(c) *first in first out (FIFO) – this method assigns costs on the assumption*
(d) *standard cost – this method assigns predetermined costs, subject to adjustment for cost variances where appropriate.*

(xvi) *In selecting one or more of the methods referred to above, management must exercise judgement to ensure that the method chosen provides the fairest practicable accounting reflection of the reality of the situation. It may, for example, be inappropriate to apply averages based on costs incurred over a whole financial period, in circumstances where there was a complete turnover of inventories several times during that financial period.*